

AMERICAN GAS ASSOCIATION MONTHLY



Vol. I

No. 10

October 1919

"If the American Gas Association can contribute substantially, in effort and enthusiasm, in research and results, to shaping the industry's progress in the American Way of co-operation, with inducement to individual effort and initiative, in every office, plant and workshop, it will deserve well of those in whose service it is engaged."

—George B. Cortelyou.

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FOR STATEMENTS AND OPINIONS CONTAINED IN PAPERS AND DISCUSSIONS
APPEARING HEREIN, THE ASSOCIATION DOES NOT HOLD ITSELF RESPONSIBLE

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WITH THE EDITOR.

The Yard Stick and Caliper.

Some of us when faced with a choice between "action without ideas" and "ideas without action" would still choose the latter; for an idea is worth something in itself, while an action is but a mechanical motion unless it is governed by thought.

However, for a business enterprise the ideal would seem to be "action with ideas;" results that follow definite intentions; a movement, a change and rearrangement of elements in accordance with a plan.

In other words, for a business enterprise let us do something because we have determined what it is and why we believe it should be done. Let us give our thoughts, our decisions, our matured ideas for policies and undertakings, a three dimensional, material reality, an existence in tangible results.

A big convention of the American Gas Association has just closed. There was a superabundance of material for thought and more demands for consideration and decisions on our part than we could possibly meet in a week of time. But in those very demands lay the greatest signs of the Convention's possibility of success.

The realization of that success can only be judged, however, as time slips by and we see, or fail to see, the decisions being made and their programs being carried out.

If nothing happens because of all we have listened to and said and seen at

this Convention; if our selling, our manufacturing standards, our rates and our bookkeeping all remain unchanged and we ourselves are just our old selves content to let well enough alone, then our time and money and that of our companies and of the public that bought our product while we were in New York, are all wasted.

This is but a discourse spun from what the Secretary-Manager has said so forcefully in his annual report. *Proceedings* in bound form can occupy any book shelf space but the only *Proceedings* that actually count are those that proceed throughout the year and end, or let us say, truly begin, in action and tangible building toward solid results.

Credit Due

In our September issue on page 496 we printed a clever cartoon for which credit should have been given to The Society for Electrical Development. We deprecate our oversight and wish to say that we appreciate the courtesy of the Society in having permitted us to share the little series of telling pictures with our readers.

EDITOR A. G. A. MONTHLY.

Big Words Humanized

Adaptability—

means doing the next best thing in the handiest way.

Efficiency—

is knowing just how and fitting it to just when.

Loyalty—

consists in being decently considerate of the Boss.

Responsibility—

lies in having grit enough to risk a call down.

Opportunity—

is the same thing as being born lucky.

Reliability—

shows the capacity for staying put longest.

Integrity—

is the Sunday name for plain week-day honesty.

—From A. G. A. Bulletin of Abstracts.

AMERICAN GAS ASSOCIATION MONTHLY

Vol. I

OCTOBER, 1919

No. 10

Democracy in the Gas Industry

Address of Geo. B. Cortelyou, President of the American Gas Association, at the First Annual Convention of the Association. Oct. 14, 1919.

Gentlemen of the American Gas Association:

ON the cover of the July number of the American Gas Association MONTHLY appeared these words of Theodore Roosevelt:

"Every man owes some of his time to the upbuilding of the profession to which he belongs."

Those who are participating in this Convention are acting in accordance with that belief, and it is the central thought in my mind as I speak to you this morning.

I shall not establish the precedent of a stiff and formal report upon this occasion. Upon many matters you have heard from us at regular intervals through the MONTHLY. The Secretary-Manager in his interesting statement has given you an outline of what has been accomplished, and has made important recommendations which I am sure will

receive your most serious consideration. The Treasurer has reported to you as to our finances, which, I am happy to say, are in sound condition. The Section secretaries will tell you of what each Section has been doing. So that general data and detailed statistical information will be before you.

These gentlemen, with the Assistant Secretary-Manager and the staff, and the Chairman and their associates in the Sections, have my most cordial appreciation for all they have done and are doing today to advance the interests of this organization. To the Secretary-Manager personally I wish to make acknowledgment in your presence of the ability, energy and sound judgment with which he is discharging the duties of his important office. And as to my associates on the Executive Board who have given freely of their time and energy in the discharge of their responsible duties, I speak in terms of the highest regard.

With very complete information in your hands regarding the Association's work up to this time, I feel free to speak, with the brevity that seems to me appropriate, upon a few questions of policy and administration, in a way that I hope will be of interest to you.

In the course of my remarks at the March Conference, I tried to point out in some detail the problems before us and to indicate the channels through which the Association should study them. The several Sections are studying these problems, and are helping us to find solutions. From time to time they are offering concrete suggestions to the industry. But much of what we have said to you relates to what I may term the external aspects of our business, as distinguished from what goes on in our offices and plants. This morning I put the emphasis on these latter—these more nearly internal aspects—for as we reach conclusions as to the best standards of manufacture, the most equitable systems of rates, the wisest application of sound financial theories, we must have the office and plant, the workshop and laboratory—all the departments of our companies—functioning efficiently, if we are to achieve the highest results. In plain terms, we must be sure that our house is in order if we are to make the best use of the recommendations that grow out of your work in the Association.

One of the first of these internal questions that suggests itself is that of our relations with the clerical staffs of the companies. Some companies are experiencing a high percentage of turnover which makes for lowered morale and uneconomical administration. The embarrassments of these employees are peculiarly their own. Wherever we have not done so we must make such adjustments of employment conditions as will

in substantial measure meet this situation, for we fall short of our highest administrative organization if we do not inspire a spirit of incentive and encouragement among all our employees.

From the clerical workers we turn to another essential group, the labor, as it is termed, the labor upon which we must rely for the efficient conduct of our plants and shops and other similar departments, in which the turn-over is also large.

This problem of labor is, as I am sure we all understand, one of the most serious that is before us to-day. It will not be solved on the one hand by any involved method, or, on the other, by any sleight-of-hand process. Its solution will lie along lines that unite a knowledge of human nature with a realization of the rights of the worker to be adequately compensated, and to be in all respects recognized and treated as an honorable and essential part of the country's industrial life. Charity, under whatever guise, is and should be abhorrent to him. It is destructive of his self-respect, corrupting in its influence upon his character. The worker who is given the opportunity to develop his own life will be a better citizen than one who is coddled by sumptuary legislation. Opportunity, under law, must be made a reality to him, that honest work and loyal concern for the interests of his employer may in good faith be exacted of him.

Loyalty to the government, recognition of the rights of the public, straightforward observance of obligations, are due from employer and employee alike.

It will be through an adherence to the fundamental principles of American democracy that we shall reach a solution, and, whatever else it may embrace, class legislation and class distinction will have no part in it.

And these remarks apply to all departments, to all officials and employees. The spirit of efficient service must be encouraged and every one employed in the industry must be made to feel that he is engaged in an honorable calling and that the future holds possibilities of permanency and advancement. Co-operation, in the fullest measure, of course, but in every office and plant and workshop there must be inducement to individual effort and individual initiative. That is the American way. That should be the way of the gas industry; and if the American Gas Association can contribute substantially, in effort and enthusiasm, in research and results, to so shaping the industry's progress it will deserve well of those in whose service it is engaged.

Aside from these more domestic concerns of ours, let me refer, for a moment, to some connected with the use of our service.

Every officer and employee should make himself an influence for friendly relations with the public through efficiency and courtesy in the treatment accorded each customer. Half-way methods will not avail; the influence must be continuous and whole-hearted. Let the head of every office see to it that there shall be no complaint of lax handling of any customer's business, and that there shall be extended to him at all times the fullest courtesy. Make every piece of work done, every appliance installed, every transaction of whatever nature, a nucleus of good feeling. Make the service in the finest sense a popular service.

In the general conduct of our business let us not fritter away our time in profitless discussion of non-essentials. With attractive new fields before us in the fuller application of our product to the fuel requirements of the people and in certain other directions that at once

occur to the alert gas man, let us throw our resources into the effort to meet these demands. As to standards and rates and all their related subjects, let us fight openly and strenuously for what we believe to be best alike for the public interest and for our own. The industry cannot, ostrich-like, poke its head in the ground and expect to protect itself by doing so. The people are watching it as never before. Let us hold up our heads and give them the facts upon which an intelligent appreciation of our service can be based.

Finally, let me say this—every gas company in the United States and every other company coming within the requirements of the Association's constitution and by-laws should be a member of the American Gas Association, and should encourage officers and employees to become members. The Association is to make an honored and influential position for itself by the timeliness of its contributions to the welfare of the industry and by the exact and impartial character of the data it distributes. We believe it worthy of encouragement and look to you to hold up the hands of those who are giving it their time and material support.

The most immediate opportunity presented to you is to avail yourselves of what is offered by the programme of this meeting. Many a city and town has today what is called an Open Forum. There is no better forum for the discussion of any gas problem than right here on the floor of this Convention, open to all members without regard to the size of their companies or the grade of their position in them.

The business life of the world is in a state of extraordinary readjustment. In this critical period America will lead, as she has led in the past, along the pathway of sound principle and enlightened pro-

gress. We have made great contributions to human betterment and, while we falter at times, we seek to realize, as far as human frailty will permit, ideals of truth, justice and right-living. But to-day, as in all times of unrest, we are beset by a multitude of the hasty, the unthinking or the evil-minded with panaceas for the relief of conditions about which even the wisest among men and women hesitate to reach definite conclusions. The great mistake most of our present day theorists are making is that while they are correct in the opinion that we are living in a world distraught, their remedies overlook the fact that the only effective cure will come through the age-tested formula of hard work, frugal living, economical government and thorough co-operation.

As a people we can meet our responsibilities only through the devotion of our citizens, and business throughout the land should instil in its employees this spirit of fidelity.

Our public utilities should be schools of patriotism. Lessons of loyalty can be learned by precept and example in office and workshop. We can do much to make clear to a multitude of workers

their rights and their duties under our American institutions; the high privilege that is theirs in this land founded upon the principles of ordered liberty, of opportunity, of democracy.

And we hear much of democracy in these days of turmoil and transition. It is frequently defined in strange terms that grate harshly upon the ears of those who try to read aright the teachings of the immortal Constitution. But do we not voice the very spirit of this America of ours if we say, as did a great preacher of old:

"It is a serious responsibility that goes with liberty; if you have it, you must use it in the fear of God for the good of others as well as for your own good.

"Democracy does not mean a universal level. It does not mean equality. It means equitable opportunity."

At the Annual Banquet on Wednesday evening in the Roof Dining Hall at Hotel Pennsylvania, Mr. Cortelyou supplemented his opening address with the following remarks. Introduced by Mr. Arthur Hewitt, of Toronto, Mr. Cortelyou responded:

"The Land of Fair Play"

Mr. Toastmaster, Ladies and Gentlemen:

I ACKNOWLEDGE gratefully your kind introduction. To be associated with the men and women of this organization is a privilege that I prize most highly, and I am under deep obligation to them for their support and encouragement.

The author of a recent book has called America "The Land of Fair Play." Those who drafted the an-

nouncement of the programme for this Convention adopted as its watchword—"Let's go." There appears to me to be a certain relation between the two expressions.

When I think of the former I think, too, Mr. Toastmaster, of that splendid people to the north of us and of many anxious moments during the great war when the allied world was thrilled by the heroic devotion and knightly gallantry of the Canadians. As Premier Borden, of your country, said a few days ago:

"By ties of ancestry, of a common language and literature, of like ideals and institutions and of constant and increasing social and commercial intercourse, the two countries are forever indissolubly united in the bonds of understanding, friendship and peace. To these has been added in the years through which we have just passed, comradeship in arms for the greatest cause that ever demanded humanity's highest sacrifice."

The Land of Fair Play! Our beloved country, harassed at times by doubts and fears, warming at her hearthside enemies who have found their way into her household through the prodigal hospitality of her institutions, but always coming through her periods of danger as clear-eyed and unafraid she moves unceasingly on to her proud destiny among the free peoples of the earth! The author's designation is a peculiarly happy one. Whatever defects of government or of society there may be in this great nation, it is the country of our hope and of our love, whose people still have faith in the eternal principles of honor and justice. Opportunity still beckons us to the heights of achievement, success still waits upon ability and loyalty, and the average man asks only for a fair field and no favor. America is still a land of ideals. Its eager, pulsating, conquering industrial life is more frequently than we realize made radiant with lofty purpose and patriotic endeavor. In this mighty business activity we have a part to play, a great public service to render. This Association is organized to help us to render that service.

"Let's go!" implies not alone an invitation but an ideal. Its significance in present-day speech is based largely upon the impression it conveys of co-operative effort to obtain a common object. Indeed, the more one reflects upon it the more aptly does it apply to the conditions that to-day exist in our Association.

The Association is organized. The industry has been canvassed. The members are massed together in an enthusiastic forward movement for new fields of usefulness, for greater efficiency in the old fields, for full and ungrudging recognition by the public. We call for volunteers to fight for an ideal. Surely it is more than an emotional aspiration. It is, in fact, practicable and possible of realization. In these respects I am sure it appeals to us in an especial way, so wearied are we of the fancies of visionaries in these disturbed times. We can achieve that ideal, and my interpretation of the spirit of this Convention is that it intends we shall achieve it.

You will recall that the obtrusive Mr. Winsor, who figures so vociferously in the early history of the gas industry, in order, as he expressed it, "To erase all doubts and eradicate every prejudice," drew up a few plain questions and answers. One question and its answer were as follows:

Q. Do you apprehend much opposition?

A. Not from *sensible* and *enlightened* persons; but I am fully prepared to meet and refute all *obstinacy*, *prejudice*, *ignorance* and *malice*."

While we could not afford to follow him in many particulars, in this conclusion we should be with him heart and soul. And it will be in proportion to the earnestness with which we are "prepared to meet and refute all obstinacy, prejudice, ignorance and malice" that we shall succeed in placing the gas industry of to-day in its proper relation to the commercial and industrial life of our people.

Some may think that we take the work of the Association very seriously. We do. We would be unfitted to hold office as your representatives if we did not. But seriously as we feel the responsibilities you have put upon us, few of us

realize what the value of the Association would be to the industry and to the country if it should actually accomplish the purposes of its founders. These purposes can be accomplished, our ideal can be achieved, but only by standing shoulder to shoulder, only by hard work and genuine co-operation, each member doing his share, "pulling his weight in the boat," as the phrase goes. The industry must as never before impress itself upon each community, and each company must feel its individual responsibility in that regard. It is as true to-day as it ever has

been that "a house divided against itself cannot stand." The members of the gas industry must co-operate to a common end. They must work tirelessly for the highest efficiency, and for the creation of a just and friendly public opinion.

Let us all give our best efforts to make our industry more and more worthy to hold a commanding position in the business life of America.

Let's Go—Let's Go Forward—to our task, our duty, our opportunity, in The Land of Fair Play.

Report of Committee on President's Address

To the American Gas Association:—

WE, the Committee appointed to consider the address delivered by our President, Mr. Geo. B. Cortelyou, report as follows:

The Association is highly fortunate in having as its President a man who clearly discerns the important matters confronting the gas industry, and in fact all industries, at the present time and, dealing chiefly with these matters, gives to us upon them the intelligent, well considered and helpful thoughts contained in his address.

Nothing is of greater moment in this day and hour than securing from all laborers, included in each of the three general classes that may be designated as manual, clerical and brain workers, service rendered with a feeling of interest in their occupation and a desire to produce the best possible results not only as individuals but also in co-operation with fellow-employees, to the end that the general result of the efforts of all shall be for the greatest good of the individual gas company, and the community in which it operates and consequently for the general good of the gas industry.

All employers know that the best results can be obtained only by means of a body of employees who are heartily interested each in his own duties and all in the general welfare of the business, but, unfortunately, there is a lack of information as to the best means of securing this interest. As is urged in the address it is the duty of each and every executive and manager of every gas company earnestly to set about the task of searching for and finding the solution of this problem for his own company while keeping always in mind the search for general principles that can be applied to all cases.

Possibly some concerted action for the solution of the problem may be taken by the Association as a whole and we suggest that the Board of Directors give careful consideration to this phase of the matter and, if action through any parts of the Association's organization is found to be desirable, give instructions that such action be taken.

We commend the thought that in handling the relations between gas companies, their consumers and the communities which they serve, it is foolish to try

the ostrich trick of hiding one's head in the sand and trusting that, since one cannot then see things which it is disagreeable, and possibly difficult, to meet and overcome, the consumers and the community will also fail to see them. All matters which tend to disturb the confidence that the consumers should have as to the fairness of the dealings of their gas company should not only be met openly as they arise, but even anticipated if possible, and the justice of the attitude of the company should be demonstrated, or if any unjust attitude has been assumed inadvertently this should be

frankly acknowledged and the position changed.

Feeling that the features commented upon above are the outstanding ones we have confined our report to them with no idea, however, of suggesting that there are not in this exceptionally good address other points well worth being carefully considered.

Respectfully submitted,

ALFRED E. FORSTALL,
JAMES T. LYNN,
CHARLES H. NETTLETON,
Committee.

First Convention and Exhibition of A. G. A. Set High Standard

THIS issue of the MONTHLY has waited for the close of the first annual Convention and Exhibition of the American Gas Association, an event that will ever be memorable in our history. To equal its enthusiasm, its earnestness and its spirit of trust and confidence that its actions are to count definitely in the future of the Association and the industry will not be impossible, but extremely difficult. We have set a high mark for ourselves and for future conventions.

Attendance

Registration from Monday morning until Friday evening showed approximately eight hundred individual members, one hundred gas companies represented by their official delegates and one hundred manufacturer companies so represented. Attendance, as judged by the general sessions, exceeded twelve hundred individuals. An exact count, for each Section, of registered members and delegates will appear in the *Proceedings* and a later number of the MONTHLY.

Such figures as these justify the hopes

and intentions of the Association to increase its membership to ten thousand individuals, to every gas company in these United States and to some three hundred manufacturer company members.

From the opening of the Convention to its close it was noticeable that the enthusiasm of both the officials and of the members did not lead them to an attitude of accepting everything in its *status quo*. Frank discussion led to free criticism and checked any tendency to a use of superlatives and undue praise while it gave every commendation to the real work of individuals, secretaries, committees and officers.

To continue in this strain, it is but fair to say that much of the most valuable discussion took place outside of the formal meetings and that one or two occasions seemed to suggest that a too bulky program of reports and papers had been provided to leave time for their adequate or complete discussion.

The General Sessions were held every morning from Tuesday until Friday

while the afternoons were given over to the meetings of the Sections. A series of dinners were held by Chairmen of the sections and the larger committees, which proved entirely successful as aids in bringing these bodies together for the expression of individual ideas for next year's business and the suggestions to be passed on for new committees to consider. Mr. Klumpp entertained the Managing Committee of the Technical Section; Mr. Brill, the Managing Committee of the Manufacturers and Mr. Thomson King gathered together the members of the Industrial Fuel Committee

The formal opening of the Convention took place at 10 A. M. on Tuesday, October 14, with President Cortelyou in the chair. The large ballroom of Hotel Pennsylvania was filled to overflowing—some seven hundred men were present. After greeting the members and their guests and visitors and wishing them every success, Mr. Cortelyou carried the business forward through the various reports which showed the sound financial condition of the Association and the gratifying, although not entirely satisfactory status of its membership. It was proposed that

Sir Dugald Clerk—President of the Institution of Gas Engineers of England and

M. H. Laurain—Président de la Société Technique de L'Industrie du Gaz

be elected honorary members of the American Gas Association and the Association proceeded to do so.

With Mr. Arthur Hewitt in the chair, the President proceeded to deliver his formal opening address (see page 539) and again and again his remarks were interrupted by applause as those present indicated how heartily they sustained his plea for the help of each man in the up-building of the industry and for the rights of each man to his share in its

prosperity according to his contribution.

The proposed amendments to the Constitution and By-Laws as sent to all members thirty days prior to the meeting were accepted, as were the other reports presented by the Chairman of general committees.

The Nominating Committee presented the following roster of names, which was accepted unanimously:

Officers for 1919-1920.

President.....Geo. B. Cortelyou
Vice-President.....Rufus C. Dawes
Treasurer.....Wm. H. Barthold

The Time and Place Committee recommended that the 1920 Convention of the American Gas Association be held during the corresponding period of October in New York. The recommendation was accepted.

The program as printed in these pages last month was carried out with the exception that Mr. Henry L. Doherty's paper was postponed until Thursday morning because of Mr. Doherty's absence from the city. The papers of the general Sessions, all of which proved to be of absorbing interest, will appear in these pages or in a special bulletin, and in the Association *Proceedings*.

On Thursday morning, Mr. Chas. L. Holman, Vice-President of the American Gas Association by telegram called the proposed legislation concerning the dye industry to the attention of the Convention because of its connections with the gas industry through the use of coal tar.

Mr. Joseph H. Choate, Jr., Counsel for the Chemical Foundation, was asked to present the case of the dye industry and he outlined its position and history, calling attention to its importance in the manufacture of high explosives and in medicine with new developments along chemical, rather than bacteriological lines. The speaker declared that we are in no position to meet German competition and urged immediate action by the

Association to inform the Senate of its stand toward the bill now pending for the protection of the dye industry (see page 575).

After some discussion, the question of action to be taken by the Convention was referred to a committee consisting of

W. R. Addicks, New York,
Rollin Norris, Philadelphia,
C. A. Munroe, Chicago,

with instructions to report in 45 minutes. A resolution was brought in as follows:

Resolved: That this Association believes that the dye industry should be adequately protected for a period of time that will give full opportunity for the proper development of the industry.

Resolved: That this Association calls the attention of the Executive Committee of the Board of Directors to H. R. Bill No. 8078 and authorizes the Committee in the name of this Association to take such action in endorsement of this bill as the Committee may consider wise.

The Association also calls this bill to the attention of its members for such action as they may desire to take.

The resolution received the approval of the meeting.

Section Meetings

The general sentiments of the Section sessions are summed up very adequately in the addresses of their Chairmen, printed herewith.

The Accounting Section overflowed its meeting room and had to be transferred to a larger one. Mr. A. P. Post, who conducted the sessions in the absence of Mr. Erickson, was enthusiastic over the attendance, the interest shown by the members and the definite conclusions reached. The Nominating Committee's report was accepted and the officers for 1919-20 are as follows:

A. P. Post, Chairman
A. L. Tossell, Vice-Chairman

The following accounts were given by Section Chairmen before the General Session.

Commercial Section: E. N. Wrightington

The following are among the matters being considered by the Commercial Section.

Raising the standard of remuneration for sales representatives to a point where it will attract and hold a high class of salesmen, urging that companies adopt a high class of salesmen, urging that companies adopt a policy of building up and maintaining their sales organizations on a more permanent basis. In the judgment of the Committee, this can only be accomplished by making conditions such that positions on the selling force will be attractive and carry assurance of permanency.

Advocating that the sales department of gas companies be on a self-supporting basis. That selling prices of appliances should show a reasonable profit and still move the maximum number of appliances. That the new business department should only bear, in overhead and other expenses, such charges as are legitimately chargeable against merchandising sales.

That the sales department costs of selling merchandise be separated from other promotion expenses, which latter should not be chargeable against the new business department.

That the gas companies recognize the value of service and improve their present service to customers, in so far as installation of appliances is concerned, and that companies establish a closer, co-operative working arrangement between the installation and new business departments.

That in place of periodic or spasmodic sales campaigns, it should be the policy of companies to work for a twelve months' maximum business on an even load. It is suggested, as a means for doing this that companies adopt a policy of intensive sales effort the entire twelve

months of the year. It is recommended that companies follow the regular schedule of monthly sales activities, as outlined by the sub-committee on Special Sales Campaigns.

That companies analyze more closely their merchandise and gas sales, thus being in a position to even up the valleys and peaks, occurring during the year. This will require a close analysis, by companies, of their particular local market conditions and their sales activities should be planned with the end in view of filling in the valley periods in their gas and merchandise sales.

It is important for gas companies to study all phases of merchandising and to handle the best appliances on the market, also to use the same up-to-date selling methods as other merchants, in disposing of their product.

The industrial fuel work has been along the following lines, and includes the following recommendations:

That an increased appropriation be granted so that arrangements can be made whereby Mr. Ehlers or some other expert may be employed to secure and disseminate information about gas as an industrial fuel, especially through the medium of articles in the journals of industries that use our product.

As to educational work, it is recommended that the Industrial Fuel Course issued by the N. C. G. A. be revised and enlarged to form two parts, a Junior and a Senior course, for elementary and advanced students, and to include such subjects as mixing systems, high pressure gas, water and space heating, soft metal melting, flue-gas analysis, thermostatic control and recuperation,—now inadequately handled or entirely omitted. The need for lessons adaptable to presentation as lectures before classes, is urged. The report outlines the courses, lesson by lesson.

As to the central laboratory, it is the opinion of the Industrial Fuel Committee that development and publicity work in great amounts are needed to assure the success of gas in competition with other fuels. The work needed requires the whole time of trained men with proper equipment. This committee found that companies now spend from \$0 to \$60,000 per year for development work and tests. Chicago offers 120 million cubic feet of gas per month on brass melting, if gas furnaces are properly developed. Central laboratories are being endowed and established by other industries and manufacturers, *e. g.* electric, metal rolling, malleable iron, canning, hot air furnaces.

The Committee recommends that the Chairman of the Commercial Section appoint a committee to propose a plan for the beginning of testing and development work at some existing laboratory, and ask for a definite appropriation and authority to inaugurate and carry on such work.

The report has a strong conclusion arguing that the future profits of gas manufacturers are in industrial fuel lines—the “big” customer, who used 1,000,000 cubic feet per month before the war, now uses 1,000,000 cubic feet per day. To get these big installations, we must develop our appliances and solve our technical problems. This requires laboratory facilities and trained workers. Thus far, sub-committees have done some preliminary work on such fundamental subjects as (1) improving the designs of atmospheric burners, (2) proportional mixing and (3) standardization of furnace performance. Important subjects, *e. g.*, recuperation, have not yet been touched.

Support of company members is necessary, especially in the form of permitting industrial fuel men to work on committees and attend meetings.

It is also brought out in the Commercial Section that the companies require increases in rates. That subject has been covered by the speaker this morning, but the commercial men feel that is an important subject. We think that the fact that the prices of gas companies have increased very little in comparison with other commodities, the figures having been published sometime ago, instead of being a compliment to the gas business, is rather a reflection upon it, in the fact that it shows that we have failed to educate the public to the necessity of increasing the rates. Where there is such a great difference in the rates of one city as compared with another, it simply shows that the companies have not properly educated the communities in which they are doing business.

Manufacturers Section: A. P. Brill

The Manufacturers Section gives an outline of what the Section plans to do, rather than a survey of what has been done. When the Association got under way in December, the first need was the completion of organization, followed by the development of membership, which at the beginning was not large in numbers, or diversity of interests. The membership of the Section in December, 1918, was 74 manufacturer companies; this has been increased to 164 manufacturers. The Association revenue produced through the Manufacturers' Section membership is approximately \$15,000 annually. This Section now is ready to apply itself to some real work. The membership is of such size that we can command a majority in support of the work we undertake. For the ensuing year the Manufacturers' Section has endorsed the following program:

With regard to statistics, we will undertake the preparation of complete statistics, showing production of gas consuming apparatus with market classifica-

tion, and related data. This information, together with the statistics the Association will gather concerning the gas industry, will, for the first time create data that should have an important influence upon future development.

As to publicity, the Manufacturers' Section endorses, and the assurance is given, that a greater number will engage in broad publicity, to the end that the American public will be better sold on gas consuming apparatus.

In connection with membership, a survey of the field suggests that this Section should have a membership of approximately 300. Plans under way create the belief that before the next Convention we shall have enrolled not less than 250. If this is accomplished the Association revenue through this Section will be approximately \$30,000.

As to trade acceptances, we believe the gas industry should more generously endorse this convenient means of handling accounts, and we shall put forth a greater effort to bring it into vogue.

The subject of revision of standard specifications has remained untouched since 1912, and the Section will immediately form a committee to co-operate with other Sections, to bring the specifications up to date.

We believe that future conventions should be held in connection with large public exhibitions, alternately East and West. Notwithstanding the high cost to all concerned, public exhibitions are a means of educating the public to the advantages of gas, and we propose, if possible, to make future public exhibitions more interesting than they have been in the past; by introducing features that will improve the public appreciation of gas and its uses.

We believe that future exhibitions of this kind should be handled by the Association staff through their various Sec-

tions, and the burden not fall, as in the past, so heavily upon the individual gas company in the city chosen for the exhibition.

We believe that gas companies should heartily endorse these undertakings; they surely favorably influence the development of better public understanding.

In regard to merchandising, the great unsold market for gas is of vital interest to manufacturers, and they propose to co-operate to a greater extent than ever before, through Committees, with other Sections, to the end that the most effective means will be found to develop the market possibilities more profitably than in the past.

The Manufacturers have unanimously and most enthusiastically endorsed the broad policies that the American Gas Association has inaugurated, and they are determined to use their best talent to co-operate closely with the Association to the end that it will assume leadership in the industry, and become the mentor for future co-operative activities.

We are pleased with the opportunity we have to exert ourselves in the constructive work that the Association is to undertake, to the end that we shall mutually improve our situation.

Technical Section: J. B. Klumpp

I was told that I was to give two or three minutes resume of the work done by the Technical Section for the past year. As I explained yesterday at our session, we have had about seven months to start on certain schemes that we had in mind, and we appointed ten committees, which have submitted reports which are scheduled to be taken up at this meeting. Briefly, the work was as follows: The report of the Carbonization Committee, which has rehearsed the work done by various processes of carbonizing coal, and describing the processes, and in some degree giving the results of the work. This report was sub-

mitted yesterday, and there was quite a little discussion on it.

The second report was prepared by the Consumers' Meters Committee, which gave certain recommendations as to the methods of testing meters, and they handled the subject very thoroughly. This Committee will be continued, and we hope to have added to its personnel a number of the younger men, and some of the men who are particularly interested in the meter business, who do not agree entirely on some of the matters suggested by the Committee.

We have a Committee on Disposal of Waste by Gas Companies. This is a subject we have taken up for the first time this year, but it is an important one to managers of gas companies. There has been considerable difficulty in this country, both in the harbors and small streams, from the pollution of the water by gas companies. I think we have been, to some extent, guilty in this matter, but the trouble has been caused to a much larger extent by other industries, and we get the blame for it. We hope that after our committee goes into the subject thoroughly, it will find the remedies that can be applied to small properties, a cheap remedy. The committee will treat the subject generally, and we hope to bring before the members the method by which the waste can be disposed of at a profit instead of in a way to pollute streams.

There has been a good deal done in England on the subject of disposal of waste by gas companies, and our English brothers are tabulating this matter, and we expect to have the matter submitted to us and to be able at the end of a year to present a full report on this subject.

We have a standing Committee on Cast Iron Pipe Joints, which will report. It has been demonstrated, a fact which I think will be of value to us, that it is necessary to take some steps to protect

our standards, and in that connection we have a committee working with the American Society of Mechanical Engineers on the protection of the U. S. Standards on Pipe Threads.

We have several other committees that are reporting, which are listed in the program, and I think if the technical members will come in to discuss the reports to be presented at the next two sessions, that we will get some ideas from the membership that will help us in our work for the coming year.

The new officers elected for the Commercial Section are:

C. A. Munroe, Chairman

J. P. Hanlan, Vice-Chairman

The new officers elected for the Technical Section are:

L. R. Dutton, Chairman

W. S. Blauvelt, Vice-Chairman

The Manufacturers Section has elected:

W. G. Gribbel, Chairman

G. S. Barrows, Vice-Chairman

The Manufacturers Section reports showed that the exhibition was the largest in point of numbers of any since the plan of not admitting the public was adopted; and also showed that it had paid for itself and might leave a surplus when decorations, floor covering, etc. had been salvaged. A resolution was passed and a Committee appointed to convey the thanks of the Section to the Hotel Pennsylvania for its kind and generous co-operation at every point.

Through the courtesy of the New York gas companies the hotel managements and Mr. R. V. Howes, a number of visiting gas men were shown through the Astoria Gas Plant and about three dozen were taken through the gas-equipped kitchens and laundries of the Commodore, Biltmore, Pennsylvania and other hotels.

Entertainment

The President's Reception was held

Monday night at 9 o'clock and was followed by a dance and buffet supper.

The annual banquet took place on Wednesday night in the Roof Dining Hall. Over seven hundred gas men, with their wives and guests, were seated. The dinner was followed by speeches and music with Mr. Arthur Hewitt of Toronto, as Toastmaster. President Cortelyou, Mr. Edward J. Cattell and Rev. C. Wallace Petty and the Toastmaster all dwelt upon the present relations between employer and employee in the world and all took the optimistic view that America would fight her fight and win her war in this as in former difficulties.

The A. G. A. Quartette, Mr. and Mrs. T. Foster Why and Mr. Percy Hemus favored the guests with musical numbers.

The final meeting of the Convention was held by the Commercial Section on Friday morning, but the Exhibition was not closed until Saturday at noon.

Publicity

A number of the important papers of the Convention, including Mr. Sisson's, Mr. Williams' and Mr. Cortelyou's were sent to the New York Press and special publicity for the appliances in the Exhibition was secured.

Copies of all papers distributed at the Convention have also been released to the trade journals for wide publicity.

The motto of the Convention has been "Let's Go." There can be no question that the response of individuals and companies in the Association's membership and of a large body of men interested in the gas field has been "We're Here!"—here for work, for action—here to stay!

BROOKLYN STRIKE ENDS

The end of the strike of the Brooklyn Union Gas Company's gas fitters, which has been reported in greater detail in the various local papers and trade journals, was declared off on September 26 when the men returned to work.

Report of Secretary-Manager for 1918-1919

THE Secretary-Manager submits the following report for the period ended September 30, 1919.

Association Headquarters

The space formerly occupied in the Engineering Societies Building and on the fifth floor of the building at 130 East 15th Street, was vacated during July and the present headquarters established on the Auditorium Floor of the building at 130 East 15th Street, where the increased space and improved facilities are adequate for the proper accommodation of the personnel and the efficient transaction of the Association's business. This has been effected without appreciable increase in the annual expenditure for the former unsatisfactory and inadequate quarters.

Membership

The membership as of September 30, 1918, and September 30, 1919 consisted of

	Sept. 30, 1918	Sept. 30, 1919
Gas companies	257	292
Holding companies	9	10
Manufacturer companies	75	151
Active members	1250	1651

It will be noticed that the increase in company members of all classes approximates 33 per cent., the largest gain being in the case of manufacturer companies, which have doubled in number, while gas company members have increased 14 per cent. The number of active members has increased 32 per cent.

The gas company membership at the present time represents approximately 70 per cent. of the capital invested in the United States in the business of supplying artificial gas, but barely 30 per cent. of the total number of artificial gas companies operating throughout the country. Obviously, this discrepancy is in the fact

that many smaller companies are not yet in our membership and this is to be regretted, for not only are they to be benefited and aided by such affiliation but the value of the Association's work and the weight of its influence will be greatly enhanced by the participation in its activities of all artificial gas companies, giving through their wide geographical distribution, a truly national representation.

The Association needs the interest and support of the smaller gas companies quite as much as of the larger and more important interests. Such effort as has been made along these lines has not so far realized what had been hoped for, and plans are now under consideration for a more intensive campaign to make our membership in all classes representative of the industry in a truly national sense. If the enthusiasm and interest of our present membership can be brought to aid in this effort, it will be speedily accomplished.

Sections

Four sections, the Commercial, Technical, Accounting and Manufacturers, are now in active operation and the recently organized Advertising Section is about to undertake its important work. The report of its Plan and Scope Committee is to be presented for your consideration during this meeting. The enrollment in the several sections, as of September 30, 1919, is as follows:

	Active Members
Commercial	1046
Technical	1038
Accounting	710
Manufacturers	650
Advertising	191

Committees

Twenty-three general and twenty-five sectional committees have been active

during the year. This does not include sub-committees nor those engaged in work of a more or less routine character. The committee activities have ranged from those concerned with matters of national importance to the industry, to those of less general interest but nevertheless of great importance in their relation to the specialized work of the several sections. The reports of these committees, with the special papers and addresses to be presented and the discussions which will ensue make up the business program of this first convention.

Whether or not a too bulky program has been provided will be demonstrated during this meeting and will lead to an accurate determination of whether we have successfully adhered to the announced policy of the complete accomplishment of a relatively small number of important matters as preferred to a large and bulky program of activity at the risk of less definite results. A strong feeling exists that fewer papers and more constructive work leading to direct action and a tangible record of accomplishment are to be desired.

Affiliated Societies

Affiliation agreements are now in force between this Association and the principal state and regional gas associations of the country as follows:

- New England Association of Gas Engineers
- Wisconsin Gas Association
- Illinois Gas Association
- Southern Gas Association
- Pennsylvania Gas Association
- New Jersey State Gas Association
- Indiana Gas Association
- Iowa District Gas Association
- Canadian Gas Association
- Pacific Coast Gas Association
- Michigan State Gas Association
- New England Gas Sales Association

The Association has been officially represented at the meetings held by these

affiliated societies and they in turn have participated in the activities of this body through their representatives on the executive committees of the several sections. It is a pleasure to report that these affiliations are proving to represent far more than the execution of a formal document of agreement. They are resulting in the mutual exchange of helpfulness and support with benefit to all concerned and to the advantage of the gas industry as a whole. We believe that the results of this co-operation will be tangibly evident in the coming year.

Representation Before Other Societies and Organizations

The Association has been well represented before various bodies whose activities are on matters of interest to our industry, among the more important being:

- Chamber of Commerce of the United States of America, Capt. Wm. E. McKay.

- American Society of Heating & Ventilating Engineers, Mr. George S. Barrows.

- Association of Edison Companies, Mr. George S. Barrows.

- Natural Gas Association of America, Mr. George B. Cortelyou.

- National Electric Light Association, The Secretary-Manager.

- National Fire Protection Association, Mr. R. S. Doull.

- Master Plumbers Association of New York, Mr. R. S. Doull.

- Illinois Manufacturers Association, Mr. Bernard J. Mullaney and Mr. Geo. D. Roper.

- American Steel Treating Association, Mr. William A. Ehlers.

Societe Technique de L'Industrie du Gaz and through the participation of certain of our committees in the work of

- The American Committee on Electrolysis

- The Refractories Committee of the American Society for Testing Materials

The Congress on International Uniform
System of Pipe Threads

The Committee of 100 of the American
Electric Railway Association

The National Bureau of Standards

and others.

Meetings of the Board

Eight meetings of the Executive Board have been held during the year and since the March Conference it has been the policy to hold these meetings monthly. Many of these gentlemen have travelled considerable distances in order to attend and the record of attendance and the number of meetings held are the best evidence that the Executive Board has a fit sense of its responsibilities to the Association, and the importance of the direction with which it is charged.

General

The March Conference in 1919 marks the real resumption of Association activity. Viewed in this light, the results for the past eight months have been encouraging, but we are not yet at the point where the pace of possible achievement has been set or the scope of the Association's ultimate usefulness clearly defined, although this period of organization has done much to clarify the possibilities and to point to those activities upon which the major portion of the effort should be concentrated.

It has been the purpose to eliminate from this report those matters upon which the membership is already informed, or which are to be brought to their attention through the papers or reports to be presented at this meeting. Reference is in order, however, to the several publications of the Association. Its monthly magazine, carrying as regular features the Window Display Service, the Classified Directory of Manufacturers of Gas Equipment, the Bibliography of Current Gas Literature, the record of rate increases secured and its

special articles and contributions on matters of interest to all branches of the industry, has received the most favorable comment on all sides. The Special Bulletins serve to bring promptly to the notice of members matters of importance, information of which should not be delayed. These, with the *Bulletin of Abstracts*, comprise the publications of regular issue. It can properly be urged that they be carefully read, for requests for information are frequently received by the Association headquarters which indicate that its publications, at least in some quarters, are not fully recognized as sources of definite and accurate information.

There is in the gas industry a notable lack of statistics vital to a clear presentation of its status and to serve as a record of its progress as a whole. The constant inquiries that are received at the Association headquarters emphasize the need for such information and the lack of it is frequently complained of.

It is proposed to attempt the compilation of such data as can best serve the interests of the industry, and more ready response to requests for such information than has been forthcoming in the past is earnestly hoped for.

Questionnaires remain unanswered or entirely ignored. We realize that through abuse the questionnaire has become an irksome thing. It will be the policy to limit such inquiries to those serving a useful purpose for the benefit of the whole industry, and with that assurance we couple the earnest request for prompt co-operation and response to requests for essential information which may in the future be directed to our member companies.

A number of cases have developed in which action was considered necessary by the Association Headquarters to prevent the dissemination of inaccurate in-

formation relating to various phases of the gas business. This, which has so far been a defensive effort, will be shortly supplanted by the constructive work of the new Advertising Section.

As has nearly always been the case in Association work, the burden of committee activities is carried by a relatively small number of men compared with the total number interested and concerned. We have recently quoted Colonel Roosevelt's phrase as to the obligation which every man owes to his profession. We feel that this must be reiterated and emphasized until it finds general acceptance and is reflected in the readiness of those approached, to do their fair share of the work for the advancement of the industry, and it may be well pointed out that apart from the obligation to the profession in which he is engaged, no man who has participated in Association work has failed to realize direct and lasting benefit to himself as the result of such activity. To an even greater extent is this reflected in the increase of his ability and of his value to his employer. Clearly it is to the interest of gas companies to encourage the participation of their employees in Association work.

When the American Gas Association was organized, it took over the activities of the American Gas Institute and National Commercial Gas Association. Many of these activities, originally undertaken by the American Gas Institute, are now continued under the jurisdiction of the Technical Section and those which originated in the National Commercial Gas Association now continue in the activities of the Commercial Section. It is the purpose of the new Association to utilize to the best possible advantage these important activities undertaken by its predecessors.

The Industrial Fuel Service which will be referred to in the report of the Chair-

man of the Industrial Fuel Committee is but one of the several classes of practical service to company and individual members which the Association is rendering. In addition to the field service, for which the Association is reimbursed, is the general information service carried on by the Headquarters' staff in answer to the repeated requests for data and information of all classes, which, with the exception of general statistics, we are in most cases able promptly to supply.

Any attempt to give a detailed record of this class of activity is beyond the scope of this report, but it is useful activity of an essentially practical nature.

The deliberations of your committees and the findings at which they have arrived represent valuable time and effort and in most cases are capable of being converted into definite action or policy that will produce tangible results. It is our purpose to see that they are not lost in the pages of the bound proceedings and left to serve the future solely through their occupation of bookcase space.

Some minor changes have occurred in the Association's staff during the year. The Secretary-Manager feels that his report would be incomplete were it not to include the statement that the staff as now formed is in all respects efficient, earnestly and faithfully performing the work upon which it is engaged and giving promise of continued improvement and development. He desires especially to acknowledge the enthusiastic and able support rendered by the Assistant Secretary-Manager and the Secretaries of the Sections, upon whom the real burden of the Headquarters' work has fallen and by whom it has been most efficiently performed.

It must be the constant thought and effort of those charged with the management and direction of the Association's

affairs to determine how its usefulness may be extended and its value to the industry increased. The aid of the membership at large would be of tremendous value if our members would avail themselves of the channels that are so ready to transmit their suggestions, their constructive criticism and advice.

From the Headquarters' standpoint, we feel that it is of first importance that there be prompt and effective participation in matters of national importance and of vital interest to the industry; that,

in the carrying on of committee activities and other general work of the Association, non-essential work be eliminated and only that engaged in which will lead to tangible results and direct action as the result thereof.

It is also desired to acknowledge the hearty co-operation extended in every instance by the gas journals. They have responded promptly and effectively where their co-operation was asked and their support has been of immeasurable value to the work of the Association.

Report of Plan and Scope Committee of the Advertising Section of the A. G. A.

THE success of any enterprise depends very largely upon the goodwill of its customers. Greater success and development will come to the gas industry through a more friendly and intelligent relation between it and the public. The quality of its product and the continuity of service deserves a much heartier expression of appreciation and goodwill than is, in the majority of cases, accorded to this useful, important and valuable industry.

No one will deny there is a lack of appreciation of the gas industry as a whole by the great American public. Few people, generally speaking, understand the simple methods of the manufacture of gas or the fundamental principles of combustion and fewer still realize that in burning gas they are helping to conserve the natural resources of the country.

We have failed to provide sufficient facts and material on which the public could base an understanding and appreciation of the gas business, thereby leaving an open door for the evil minded and ulterior purposed. Through proper educational and publicity plans, a wider

discussion of these subjects will develop and out if it ought to come a standardized basis of regulation which should be intelligent and sound, thus providing a continuing policy which would give greater confidence to investors in our securities.

There is a great lack of information published in regard to gas and its use. That is one reason why it is not better appreciated. Education is the only cure for this condition. If we could properly get facts and figures of our own business, the value of our service, uses and application of gas forcibly before the people of the country, many of our troubles would be eliminated.

It is believed by those who have promoted and are carrying on the work of the Advertising Section that the right kind of education and publicity can accomplish more for us in the way of remedying conditions than anything else.

Your Section has made a careful study of the general conditions of the industry and the possibilities which will result from a persistent and continued campaign of education and publicity. It has

worked out a plan to be followed and will be pleased to present to you the general program decided upon. This plan is not based upon a theoretical or superficial study of the advantages of advertising but it is based upon a practical study of similar campaigns that have been carried on by such organizations as the Bell Telephone Company and the Gas Association of Great Britain. These campaigns have been highly successful in those organizations which have followed a consistent policy over a period of years and the Advertising Section is fortunate in having access to the methods and data of such campaigns.

It is the intention of the Advertising Section to spread broadcast, the story of gas as widely and successfully as the story of coal, of steel and of the telephone.

It is an unfortunate fact that the people know less about the gas industry than they do about any of the other utility industries, or than they do about such industries as coal, steel, sugar, oil or the railroads. There is as much romance in the gas industry as there is in the coal industry. But the story of coal has been told throughout the world, while the story of gas has never been popularly presented in this country. It is even doubtful whether there are many men in the industry itself who can visualize the industry in a way that would appeal to the layman. But our Section is confident that this can be done and that it will prove of great value to all concerned.

The Section is of the opinion that its work will not accomplish the objects for which it was organized unless the fullest co-operation of the members of the Association be freely granted. It is naturally assumed that such co-operation will be forthcoming, but particular emphasis is laid upon this matter owing to the fact

that the Advertising Section will come into more frequent contact with the members of the Association than any other Section. As the plans of the Committee develop, one or more of the executives of each gas company will have daily evidence of the existence and activities of the Advertising Section. Only the most generous co-operation and the closest co-ordination of effort between the members and the Section will make the work of the Advertising Section the success we all wish for it. It is realized by the Section that the burden of proof will be upon its own shoulders and that the degree of co-operation it receives from the members will be dependent largely upon the service it performs and the value of that service to the members. The Section has made its plans with this end in view and it predicts that the service it will offer the members of the Association will be the greatest incentive to the co-operation and co-ordination that is so necessary to its success.

The Section's plan includes a general publicity and advertising service for individual companies and a publicity campaign for the gas industry as a whole. It is extensive in one sense but it does not call for a large expenditure of money. Following our President's suggestion along these lines, the Section has limited its program to a few essentials which it plans to accomplish thoroughly rather than endeavoring to enter upon an extensive advertising campaign that would require a large working force and an enormous expenditure of money.

The Section will be a clearing house for advertising and publicity copy issued by the companies belonging to the Association. Each company will be asked to send to the Section at regular intervals, clippings from local newspapers of

advertisements by the gas company, news items about the company and about the industry and publicity matter sent out to the newspapers. Too much emphasis cannot be laid upon the importance of sending in such clippings regularly, for not only will it supply the Section with valuable ideas that may be disseminated among other companies, but it will also give the Section valuable data regarding the trend of public opinion. To conduct a successful publicity campaign, it is necessary to watch constantly the public pulse and no better criterion of public opinion exists than the news pages of the daily papers.

The Section plans to prepare articles on the gas industry for the A. G. A. MONTHLY, the technical and trade papers, the national magazines and the newspapers. Popular stories about the industry will be written to the national magazines and also syndicated in the news papers of the United States and Canada. News items will be prepared for the newspapers and sent to the company members to be submitted to local papers. The Section will not attempt to send such items to these papers direct as it realizes that one of the most important factors in the development of cordial relations between the company and the newspapers is the personal contact of the utility manager and the newspaper man. It is important in fact that each company should give the papers the fullest information possible upon matters relating to the company, and that it should constantly endeavor to create the impression that the company has no other story to tell than the truth, that it is proud of that story and that it is willing to shout it from the house tops. This is not theory. It is a practical policy that has been followed successfully for years by some of the largest corporations in the country, notably the Pennsyl-

vania Railroad and the American Telephone and Telegraph Company, and it is offered at this time as a suggestion that will be of material assistance in the campaign that is about to be inaugurated.

The magazine and syndicated newspaper articles will be along educational and instructive lines. Their purpose will be the dissemination of the real value, usefulness and importance of the gas industry. The news items will be what their name implies—*News*.

The Section will be at the service of the members in extending to them such assistance as may be required in criticising or preparing advertisements, folders, publicity, etc., for special purposes.

An Advertising Service will be one of the principal functions of the Committee. Advertisements will be prepared by expert copy writers and set up with proper attention to typography and will be submitted to the various companies. Special merchandising campaigns will be planned.

This plan will not in any way interfere with present advertising programs of the members of the Association, neither will it call for a larger expenditure of money for advertising on the part of the members. It merely means that each company will use a portion of its space for educational advertising. The plan gives the members of the Association the benefits of a national advertising campaign, it will help to tell the story of the local company to the people in its territory, it will create favorable public opinion towards the local company as well as the gas industry and it does not involve the expense usually attendant upon a national advertising campaign.

The Section is anxious to obtain suggestions and criticisms of this plan and will be glad to entertain ideas for the extension of its activities. The Section

has already considered many plans that have been suggested, including an advertising campaign in the national magazines, but it is the policy of the Section, and the Association will doubtless concur in it, that the plan as outlined herein is as extensive as it is advisable to start with.

In conclusion, we may summarize the plan by saying that it is proposed during the first year to do three specific things. First, to publish through the advertising space of the gas companies in their local papers educational information of a broad fundamental character in regard to the gas industry of a nature which all gas companies can subscribe to. Among these are, the conservation of natural re-

sources through the carbonizing of coal, the fundamental principles of combustion and the application of these to gas, the great amount of capital invested in the industry, the importance of the service gas companies render to its users, the superior value of gas as fuel, gas compared to coal, the importance of piping new buildings for gas, etc.

Second, the preparation of articles for publication in the popular, technical and trade press to promote public interest and create goodwill and also make a bigger market for gas.

Third, to give advertising assistance to the various companies through the preparation of folders, literature and advertising copy.

Address of Chairman of Technical Section

J. B. KLUMPP

OUR President, Mr. Cortelyou, in a foreword in the September issue of the MONTHLY, has called attention to the fact that this Association was organized to conduct its affairs as a democratic body, and to fulfil this idea it needs the co-operation of every member to carry out the ideals that the organizers had in view in creating an association to be of the utmost value to the industry. He pleads for the co-operation of every individual and justly demands that each one of us do his part by contributing that which he has, no matter how small, in bringing the Association up to a state of efficiency so that its value will be felt and recognized by us all.

In my travels throughout the country I have heard complaints again and again as to when the Association is going to take up certain matters or do certain things, and I find the men who most frequently make these complaints are those who never of themselves volunteer or assist in Association work.

I realize that the past year has not brought the relief to the industry that many of us thought would come at the termination of the war. The increasing demands of labor, the inability to secure competent labor and the increased cost and inferior quality of materials have all placed a burden upon us that we are striving to carry, and will continue to strive to carry for a long time to come. This situation will demand the straining of every nerve, the closest attention to every detail, and although at times the outlook appears disheartening, each of us will have to devote his extreme energies to carrying his portion of the load and the engineer will not escape his share. When we emerge from this period of unrest and uncertainty, (and emerge we must,) it is inevitable that the industry will then be better able to carry on in the future because of the faith established by its perseverance in holding out through this long period of adversity. We must have faith in our

business and create the same faith in others, for never was there a time when loyalty was more necessary than at the present, or when an organization such as this Association could be of more use to its membership. I want to call again to your minds the words of Mr. Cortelyou in his address at the March conference: "The war has taught us many things. One of them is that success in great undertakings depends not upon the efforts of the few, however strong these may be, but upon the co-operation of the many whose combined strength far exceeds that of any small, though relatively powerful group."

To those members who have accepted committee appointments and devoted their time to preparing the reports and papers that will be presented during this meeting, I wish to express my appreciation and thanks. I know that the time has been short thoroughly to investigate the subjects under consideration, since we were unable to outline the activities to be covered or to appoint a satisfactory personnel to committee work before the Spring of this year.

I do not wish to give the impression of finding fault with our membership, as I know there are many who have given as much time to the work of the Association as they felt they could afford, but I do call upon those members who, up to the present time, have shown no interest in Association work or who have not volunteered to assist the management by offering their services in such capacities as they are fitted. At our meeting last March I tried to impress upon the younger men to make themselves known to the management and to state in which branch of our industry they were particularly interested and along what lines they thought they could help us, but we have had but very few replies to that request.

It would be to the advantage of all of us if each one should contribute his ideas to his associates and permit these ideas to be developed and perfected, to be of value to the industry at large. And it is with this idea in view that I am again appealing to all of you to assert yourselves and express a desire to serve on committees or to prepare discussions that will enable your ideas to be studied and thrashed out by other members who have ideas along similar lines.

When I look back over the work of the past year, there is brought forcibly to mind the number of times that I asked for co-operation from individual members and have met with refusal, either occasioned by the individual's feeling that he was unable to give his time and attention to Association work, or through a general lack of interest in Association affairs. I am sure that the greater portion of our membership do not wish to be placed in the position of receiving the benefits which the Association can make possible to them, without giving some of their time and attention to its work in return.

A little reflection will show that instead of neglecting Association work at this time, every member should make greater efforts to participate in all of the activities of the Association. Every gas engineer in the country is faced with the same problems, although each one may be attacking them from different angles. It is obvious that if we can use the Association as a clearing house to bring together all of the experience of the individual members, the Association will have fulfilled its function in the highest degree. In participating in Association work, you will materially lighten the work of operating your own plants. Nothing will increase the ability of a man to operate a coal gas plant as much as one year's service on the Carboniza-

tion Committee. Nothing will so enlighten a member as to the destructive effects of stray electric currents on his distribution system as to serve for one year on the Electrolysis Committee. A knowledge of these benefits should instil in every member a desire to serve the Association.

In my estimation sufficient attention has not been paid to interesting the younger men in our work so that they may eventually displace and assume the responsibility now carried by the members of long standing. It should be worth a great deal to the younger men to serve since they will themselves receive the benefits that will accrue in a broadened point of view and wider circle of acquaintance and a feeling of satisfaction and pride which results from being an active worker in the Association. This idea, however, cannot be accomplished unless the younger men are given acknowledgment by their employers and allowed to give time and attention to association work, more particularly to serving on committees. They should be permitted to attend committee meetings and help in every way possible, and in permitting a man to do this, his employer should not lose sight of the fact that his value to his own company will be greatly increased.

It is the intention of the Association's management to circularize our company members and have each company suggest the names of the younger men in their organizations and the subjects in which they are interested.

The committee work in the past has been handicapped in too many cases by delaying the appointment of the chairman, and the chairman has not been given a very clear idea of what is expected of him and is, therefore, handicapped in choosing his committee. This causes further delay in getting the work

under way and results in unsatisfactory progress. With the approach of the Fall convention, some hurried meetings of the committee are held and the chairman often finds that if there is to be a report, he alone must prepare it.

In order to assure that the best results will be secured from committees, the following brief suggestions are made:

1. The committee chairman should be appointed promptly.
2. Each chairman should be provided with a brief outline of the work to be undertaken by the committee.
3. Each chairman should plan his work and decide how many men will be required on the committee.
4. Each chairman should promptly secure the members of his committee, letting it be known, as far as practicable, what will be required of them.
5. Each chairman should assign some particular portion of the program to each member of the committee and see that each member carries out his part.
6. The chairman should hold sufficient committee meetings to maintain interest and should require progress reports from all members.
7. The committee report, when possible, should be prepared and ready at least two months before the annual convention.

Since the beginning of the war, every effort has been made on the part of the Government to conserve the necessities of life and this conservation has affected our industry most seriously. The conservation and zoning of coal—more particularly the gas coal—prevented our obtaining in many districts, coals that were fit for carbonization. At the same time, certain standards of gas quality had to be met. The best grades of gas coals were used by the railroads for steaming purposes and the low volatile sulphur coals were shipped to the gas

companies. This practice has not been discontinued entirely and many of the steam users are reluctant to give up the high volatile fuels. We are put in a position of having to utilize a poorer grade of fuel or to handle a mixture that heretofore was considered outside the gas man's province.

I believe that it would be to our advantage to have a committee appointed to make an exhaustive study of the fuels of this country available for gas making purposes, including in this study the possibility of mixing different grades.

I believe that at the same time we might advantageously have a committee appointed to investigate the gas oil situation to see if anything can be done by working in conjunction with the refiners, to produce an oil more suitable for our uses. In this day of extreme pressure and vacuum refining, an interchange of ideas might be illuminating to both industries, for I believe that to-day much

good gas oil is used for fuel purposes, while some of that shipped to the gas companies is almost impossible.

When we leave this meeting and return to our homes, don't let us say or think, "Well, that meeting is over and we can rest for a while." Let us take a new start and work harder for the coming year. As technical men let us have faith in the future of our industry and make every effort to make gas the pre-eminent source of energy in its field. Let us devote ourselves to increasing the efficiencies of our operations by adopting modern and sensible methods of manufacturing, distributing and selling gas,—for it is only by creating economies that we shall be in a position to overcome many of the hardships placed upon us by the uncertainties of the present times.

Let us apply ourselves to the task of providing comforts, eliminating drudgery and adding to the health of our fellow man—for by this means we shall prosper.

Address of Chairman Commercial Section

E. N. WRIGHTINGTON

I DO not intend to review the activities of the Commercial Section for the past year. The report of the Secretary of the Section will shortly be presented, to be followed later by reports of the various committees. I ask your careful attention to these reports. The members of the committees have given a great deal of time to their work, and the members of the Section owe it to them to contribute to the meeting whatever they can in the way of helpful suggestion and criticism.

The war, of course, has had a marked effect upon the commercial activity of the gas industry. Many companies curtailed their selling departments during the war and some abandoned them entirely. Some companies were so situated that it was a physical impossibility to adjust

their plant and distribution capacities to supply increased demand, and for that reason they did not wish to encourage new business. Others found it impossible to maintain their selling organizations at normal strength on account of the shortage of man power. Still others, failing to secure authority for increased rates to meet rising costs, abandoned their sales force from grounds of economy. While certain local conditions might justify the latter course, in general I deplore yielding to the temptation to reduce the selling organization merely because it is the easiest way to cut down expenses. Net income is what the companies are after, and it can be shown by the experience of many companies that the expenditures for new business yielded the greatest return of any. There

was a very great field to introduce gas during the war, and those companies which failed to take advantage of it missed an opportunity. Many installations were made under favorable competitive conditions, by companies alive to the situation, which perhaps in ordinary times would have been postponed indefinitely. Even if these conditions become less favorable in the future these installations will undoubtedly hold.

The most serious result from the war conditions is the upward trend in cost of operation. The rising costs have not ended with the cessation of hostilities, but continue to increase. Every month appears to add to the burden. A certain measure of relief in increased rates has been granted by some public authorities, but in general the average increase in price throughout the country is most inadequate to meet the increased costs. Figures recently published comparing the increase in the price of gas with the increase in the price of other commodities may be taken as a compliment to the gas business, but they serve rather to show that the industry as a whole has failed to secure the advances in rates which are really necessary because there is no way in which the gas business can escape the increases in costs which affect all commodities.

The remarkable feature of the present situation to my mind is the wide variance between the rates in different cities. In general, the increases in costs have affected all companies in about the same proportion, and yet we find that some prices have not been increased at all, and in other cases only slightly, while some companies have been allowed increases in proportion to the increases in costs. This variation in prices indicates that a campaign of education is very much needed to show the public why prices should be permitted which will yield an

adequate return and thus maintain our industry in a sound financial condition and enable it to continue the service upon which so much of the comfort and well being of the community depends.

This subject of the present, in general, inadequacy of rates for gas supply and the proper remedy no doubt belongs primarily in the Executive Section, but the subject is so important and has such great influence upon the commercial activities of the companies that it may well have the attention of this Section.

The immediate future outlook for sales development of the companies is good. The increases in costs and selling prices of gas appliances may have reduced somewhat the number sold in the domestic field, but there is a very good demand. The public perhaps is more inclined at the present time to satisfy its longing for the victrola and pianola than for the more utilitarian gas range and gas water heater, but in general the gas appliance business in common with most retail lines seems to be pretty good. How long it will last no one can say, but there is a conservative feeling in the air that leads one to hesitate laying in large stocks in advance of a proved demand.

The industrial fuel business has been excellent and the future outlook is exceedingly bright. Competitive fuels, coal and oil, have more than doubled in price. Although gas is made from these materials, owing to increased output without corresponding proportional increase in the cost of overhead and general expense per thousand, it is probable that the percentage increase in the price of gas will not be as great as that of the solid fuels with which it competes. Increased efficiencies of utilization along the lines suggested by our Industrial Fuel Committee will also weigh in the economic balance in favor of gas. The

increasing cost of labor is all in favor of gas in this comparison as it increases the amount saved by the substitution of gas.

All the economic factors point to a continued improvement in the position which gas will occupy as a fuel in industry. Our part as a Commercial Section of the A. G. A. lies in encouraging this fuel development by collecting all the information on the subject which we can and passing it on to our members, by encouraging any new ideas which have promise, by improving the efficiencies of industrial gas appliances through research and scientific study, and by actual development of appliances in our fuel laboratory. All this takes time and it takes money. We cannot and should not expect members to give their time to such work. What we need is a well paid force of experts, inventors and men of scientific training who are devoting their entire time and thought to the development of new, improved and more efficient appliances for utilization of gas in industry.

If this Association were one big company owning and controlling all the gas companies of the country, can anyone doubt that one of the most important departments to be established would be the industrial fuel laboratory and research bureau?

This meeting is in your hands, gentlemen. It is the first annual convention which we have held under the new plan of consolidation. Let us make our part in it one to be proud of. The program is a long one. Useless repetition of the same idea by different men in different language will have to be eliminated. We can only touch the high spots. Cut out the obvious. Don't take the trouble to commend and thank the speakers for their wonderful ideas. You will get more pep into the meeting by starting right off with a knock. But if you do knock, it's up to you to make a constructive suggestion yourself.

Let's make it snappy.

Address of Chairman Manufacturers Section

A. P. BRILL

THE Organization Meeting of the American Gas Association was held in June, 1918. This was the critical period in the World War, and in consequence the Association did not have an auspicious beginning; and, until the Armistice, existed on paper only. The needs of the time presented difficulties that seriously interfered with active, progressive Association undertakings.

We do not question the wisdom of the inaction; sufficient to say it existed, and the result has been that the Association and the things it stands for, were well-nigh forgotten by those interested in the gas industry.

At the close of the war, men's minds

turned to peace activities; work was begun to shape up the Association and to complete its organization.

The period dating from the Armistice until this Convention, has very largely been given up by the Association as a whole, and its Sections and Committees, to organization rather than the creation of extensive programs.

It was largely a case of re-building and this has gone forward rapidly. The bringing forward of ambitious programs has been wisely left, as we believe, for the period immediately ahead of us.

The American Gas Association, for the first time in the history of gas association work, does, by the nature of its

combination interests and the breadth of its Constitution, create the hope that it will undertake and solve the problems common to the industry. For the first time, we have united all the forces essential to the successful development and execution of a worthwhile program.

Notwithstanding the great efforts and constructive work accomplished in the older Associations, we are all familiar with their weaknesses. Their history is too well known to those in the gas industry to need extended comment.

In contrast, we now have an organization that is fundamentally sound in those particulars in which the older associations were weak.

This big, broad Association should have the generous support of all those whose interests are common to the progress of the gas industry. This Association should mark the re-creation of the gas industry and the development of its potentialities.

The Association has a very competent central organization. It is noteworthy that it is functioning in an efficient manner. It has only made a start; yet, it has already shown qualities of leadership so essential to association development.

The Manufacturers' Section, one of the five important groups composing the Association, has given liberally in time and money to assist in completing its preliminary and up-to-date organization.

A review of the work of the Manufacturers' Section from December, 1918, when it actually began to deal with Association work, up to this time, is presented for your information and approval.

The Managing Committee held monthly meetings, with the exception of August. The records of the Executive Board Meetings show that the manufac-

turer's representatives were very faithful to their duty.

During the March Conference, the Section was represented by a paper prepared and presented by E. S. Dickey, on the subject: "Analysis of Present Market Conditions." This paper was one of the most interesting presented during the session, and was well received and most favorably commented upon by all interests.

The membership of the Section, at the time of beginning our work in December, 1918, was *seventy-four* manufacturer companies; to-day, the membership is one hundred and sixty-four, and the Association revenue from this membership is approximately \$15,000.00 annually.

In considering a program for this Convention, the Managing Committee was guided by existing conditions and refrained from creating an extensive one, for the reason that the membership was not so broad as it should be; to say nothing of the fact that the existing membership was not closely wedded to association activities.

It was believed that in these meetings only, would it be possible, through open discussion with the now larger membership, to see clearly the nature and extent of the activities in which this Section could profitably engage.

The development of membership, planning of exhibition, and preparation of papers for this Convention, largely expresses the work of the Managing Committee for the period of their office.

The papers prepared are timely and unusual. "The Unsold Market for Gas" by C. E. Bartlett, will be found accurately to reflect the things most people in the gas industry have been thinking, whether they are manufacturers or gas companies. It also reflects the thoughts of the Managing Committee and that of many gas company officials who were

interviewed by Mr. Bartlett during the period of its preparation.

The paper "Costs and Overhead" by F. E. Seeley, deals with a subject of pressing importance to manufacturers. It is a plea for uniformity of practice in determining cost to the end that businesses may be operated to serve merchandise at proper prices to those who buy, and with proper profit to those who produce.

The exhibition duplicates the plan in vogue for the past few years under the jurisdiction of the Manufacturers' Section. Some figures in connection with the recent exhibitions are interesting:

1913, Philadelphia	....	74 Exhibitors
Cost, \$15,950		
1914, Minneapolis	....	94 "
Cost, \$16,884.73		
1915, Washington	.....	67 "
Cost, \$2,608		
1916, Atlantic City	....	77 "
Cost, \$3,102		
1919, New York	.....	97 "
Cost, \$9,000		

It will be observed that this Exhibition, the first in connection with the American Gas Association, is the largest under either the present form or that used before the Manufacturers' Section took up the work with the exception of the display in Madison Square Garden in 1908. The cost of space, this year, is very modest; notwithstanding that all items entering into the creation of an exhibit have more than doubled since the last exhibit in Atlantic City. After all bills are paid, it is believed that the Exhibition Fund will have a small balance.

The Managing Committee does, in its opinion, stand convicted of the charge of selfishness. It will be observed that it has not created multifarious committees, but, by contrast, has carried all the work alone.

During this period, the formative one for the Section and the Association as a whole, it was considered unwise and

unnecessary to nominate numerous committees until the Section had passed this meeting.

While the work of the Managing Committee seems rather limited in scope and plan, they have not been idle in considering the interests of the Association, and how this Section could profitably cooperate and what constructive work it could undertake.

The Managing Committee now brings forward various subjects for your discussion, which they believe should become part of the activities of this Section:

• *Statistics:* We believe it not an exaggeration to say that the gas industry, including the associated manufacturers, is the only industry of national importance in which no reliable statistics are available.

If you set out to find one worthwhile fact applicable to the activities of gas companies or manufacturers, however important, you are obliged to guess at what you want.

Because of its fundamental value, the Association and this Section should immediately begin the development of reliable statistics covering all branches of the industry.

Once in hand, this information will materially assist the industry, to say nothing of the progress that should be the natural result of knowing what to do, when to do it, and how to do it. Statistics only, will point the direction.

We are pleased to say that at the last meeting, the Executive Board authorized the preparation of statistics, although the plan or means by which this should be done was not defined.

This Section should form a committee, or, through its secretary and clerical forces, immediately begin the preparation of statistics covering the production of all important groups.

Publicity: This is a broad subject, and it is too frequently thought of as an inexact science; but those who think of it in this light are either prejudiced or take an arbitrary view, notwithstanding the innumerable demonstrations that it is a most *exact* science.

Those who do not engage in publicity fall into various groups, but the more common one is that which says: "It is all right for some businesses, but it will not fit my particular business." There is no "particular" business under the sun. Every business responds to, and is governed by certain general rules. When publicity is given to the thing you want to do, progress of the most helpful kind is the invariable result.

Manufacturers, as a whole, particularly those who make appliances, stand in the gas industry in a rather discredited position. It isn't what they have *not* contributed to the gas industry, but what they have denied themselves, that we put forth as the best reason. With very few exceptions, the manufacturers of consuming appliances, have adhered closely to the most costly and inadequate sales policy. Few have had the courage to come out and seek an audience with the public through broad publicity.

It can be stated with certainty that whatever progress is made by the Association as a whole in merchandising and development work, manufacturers will not be able to capitalize this development unless they engage in publicity on a broader and more generous scale. Through this channel, and *only through this channel*, can production costs be reduced by the favorable influence of a larger volume; and last, but not least, the realization of a larger business at a more satisfactory profit and with greater stability throughout the year.

Advertising Section: The Association has created an Advertising Section,

which has been organized, and will bring forward a plan and scope of work for the period following this meeting. This Section will have a small program in the beginning. They will give their time to a few things with the view of doing them well and efficiently.

Manufacturers are vitally interested in this development, and should give the Advertising Section most generous support in all its undertakings.

If this Section develops properly, it will favorably influence that class of publicity and news items now so unfavorably presented. Later, when it is more thoroughly organized, it will assist in the development of broad, intelligent publicity for gas companies, and supplement all sales and development work so badly needed by the industry.

Membership: Analysis of the present membership shows the following:

MANUFACTURERS' GROUPS.

Apparatus and pipe	24
Ranges	28
Accessories	35
Meters	19
Water heaters	11
Heating	17
Baking and annealing	5
Industrial	12
Office devices	8
Lighting	6
	<hr/> 160

Two companies included in Lighting and Heating Groups.

REVENUE DERIVED FROM MANUFACTURER COMPANY MEMBERS.

97 A \$ 30	\$ 2,910
31 B 100	3,100
27 C 200	5,400
5 D 300	1,500
3 E 500	1,500
<hr/> 163	<hr/>
Total	\$14,410
300 individual members (\$5.00)	1,500
	<hr/> \$15,910

These figures speak for themselves, and show a very well developed member-

ship in all groups, except fuel. To date, the efforts of the Membership Committee to interest producers and suppliers of fuel have not been encouraging, and this group must be approached by different methods. They have a most vital interest in the growth of the gas industry; they profit much from its success and expansion, and surely should support the Association by company membership and not merely by individuals, as representatives of the companies.

It is believed that the Manufacturers' Section can do an unusual service for the Association. The field representatives of the manufacturers should be encouraged to assist the Membership Committee to influence manufacturer companies to support the Association through their membership.

They should also be encouraged to assist the general Membership Committee of the Gas Association to bring in independent and small gas companies, who, for one reason or another, sometimes chiefly because they think they are too small, or too far removed from Association Headquarters, have not shown the proper interest in Association activities.

It is believed that the manufacturers' field representatives, who frequently visit gas companies, could in many cases influence their joining the Gas Association.

The membership, its size, and the interest it manifests in Association activities, will decide the issues of to-day and the future. A good membership will insure revenues large enough to enable the Association to carry out large programs; if this is not done the Association development will be dwarfed and it will not assume leadership in the industry.

Trade Acceptances: This subject is of pressing importance to manufacturers; yet, I believe it is not mis-stating the facts to say that in the gas industry

the use of this most convenient means of settling accounts has made less headway than in any other industry.

This progressive method of financing is now happily universally indorsed, and it is our thought that a more determined effort should be put forth by the membership of this Section to bring it into general use.

Revision of Standard Specifications: This important subject has remained dormant since 1912, and it is obvious that a Committee should immediately take up the work with the view of bringing the specifications up to date.

Manufacturers, who are chiefly interested in this subject, should initiate a movement to have a committee under this Section take the necessary action to advance the best interests of all concerned.

Standards of Merchandise: Much has been said on this subject in the past. During the war period many duplicate sizes and models of appliances were eliminated, and the production schedules of most companies were better balanced, and the tendency was to standardize goods of a better quality rather than the reverse.

Through the development of membership in this Section and through close co-operation, it is not unreasonable to expect a continued improvement in the standards of goods offered the trade. The common good should draw from all manufacturer companies, the will to keep up a good average standard of merchandise.

That the close association and co-operation of our membership will favorably influence the subject, is taken for granted.

Future Conventions and Exhibitions: When the program for the first convention was developed, there was a division of opinion on the part of the Executive

Board, whether we should have an exhibit such as you see, or whether we should have something on a more elaborate scale, making an appeal to public as well as to gas men; in other words, duplicating exhibitions similar to those put on before the manufacturers took up the work. The Managing Committee adhered to this plan because there was not time to prepare an exhibition on a larger scale.

If we believe there is an unsold market for gas and that the industry is, notwithstanding its age, in its infancy when judged from the standpoint of its possibilities, then we manufacturers should indorse most heartily exhibitions on a larger scale, where we deal with and seek the approval of the public; not only for the individual benefit of the exhibitor, but for the natural impetus that the gas industry would gather from such undertakings.

The public mind is something that operates with great certainty, even though those interested in its operations are unconscious of the force of the movement; so it is natural that better to sell our proposition to the public, we must appeal more to the public and not hide our educational exhibitions.

American business shows many examples of the value of the public exhibitions. In connection with other essential publicity, they have been the means of quickly educating the public, and once the public is educated, more than half the battle of an industry is won. The "wizardry" of the gas business is as unknown to the public to-day as it was 75 years ago.

We picture to ourselves an exhibition where a model gas plant will be in operation; where its by-products are shown and its thousand-and-one chemical and industrial ramifications will be developed—some shown in practical demonstra-

tions; others with charts, photographs, moving pictures, etc. and samples, to the end that the public will have a better appreciation of the gas business. Some features of this exhibition would be unrelated to the main problems, but they would be interest-creating and of educational value, and these things sell any business.

Appliances should be in operation and the work they are designed to do demonstrated for the public's advantage. A model home and the utilization of gas for its recognized purposes should be a leading feature. Commercial and industrial uses of gas should be displayed in a practical manner.

It would take large funds to handle an undertaking of these dimensions, but the returns would be correspondingly large. It would help much to sell the gas industry to the people of the United States, and when that is done well, the gas companies' and manufacturers' problems, of whatever nature, will be nearer a solution than they have been, and we shall be enjoying the natural result of having sold our proposition to the public, whose knowledge, confidence, and good-will, in the final analysis, measure our success.

The unsold market for gas in the United States is too huge to calculate; that being the case, this Association, and particularly, this Section, should not be wanting in courage to do those things that will satisfy the market.

Sales Development or Merchandising: Our interest in this Association is naturally selfish. We are here to do what we can to increase, profitably and satisfactorily, the sale of the merchandise we represent.

However remote the interest here represented is from the consuming end of the gas business, the facts are that as the consumption of gas increases, that interest, be it ever so limited, is benefitted;

so we finally come to the place where our benefit and the industry as a whole, is going to grow out of just one thing—selling more gas consuming apparatus—and to find means to that end should be the first and foremost consideration of this Section.

The Commercial Section has set up a Committee, known as the "Sales Development Committee." We believe that the term "merchandising," after all, is more fitting because it means the selling of what you have to sell.

It is to be noted that we are a little in doubt as to how manufacturers can do their best work on this subject. Should there be one Committee on Merchandising made up of all the interests concerned in the subject, or should there be separate committees made up from those Sections interested in the subject? This question is of great importance, because one can readily see that failure to bring about a better understanding of it is likely to have the unfavorable result of retarding the development of the subject to its fullest possibilities.

The plan of handling this subject, once settled, should be participated in by the manufacturers and vigorously prosecuted to the end that what merchandising or development work is done, be done quickly and without losing sight of the big aim—the increased production and sale of gas to the end that we manufacturers prosper and grow with the market, and through our work, have the satisfaction, whether operating independently or collectively, of solving and satisfying the great unsold market for gas.

For manufacturers, it is largely a question of going ahead in co-operation with gas companies, or moving ahead by independent means. The great unsold market is waiting; and the means to its

solution is in the hands of the manufacturers if they have the foresight and courage to plan to win it.

The foregoing list of suggestions, if enacted into a program for this Section, will do two things: First, it will create a large volume of work within the Section; second, the carrying out of the work will bring the Manufacturers' Section a just reward for its labors.

We believe that the time has now arrived when the revenues of the Association, and particularly that amount produced by this Section, will enable the Association to do as it should; namely, buy and pay for, at the market prices, the necessary clerical help to co-operate with the Secretary to accomplish what he may undertake to do.

Volunteer work, while good in itself, can never be expected to carry through large undertakings, especially when, in the nature of things, the administrative bodies change more or less each year.

We now have the organization. The central administrative force of the Association is capable, and I am going to take it for granted that every manufacturer will embrace the opportunity now open to him to co-operate generously in Sectional activities.

The thoughts of the members of this Section parallel what members in other sections are thinking. There never was a time when all groups were more determined to bring about a rapid and positive development of the gas industry.

It is my hope that future judgments on our course will show that the manufacturers have been guided by a liberal and constructive spirit and that when the question is raised, they will have been found to have acquitted themselves creditably in all things which they undertake.

THE CHEMICAL WARFARE SERVICE RESOLUTION AS ADOPTED BY THE EXECUTIVE BOARD

WHEREAS, in the recent war, very nearly one-third of all American battle casualties were caused by gas, notwithstanding the excellence of American masks and the American gas defense training;

AND WHEREAS, the death-rate from gas being less than 4 per cent. of gas casualties, gas is a far more humane method of fighting than bullets or high explosives;

AND WHEREAS, the development of chemical research and chemical industries throughout the world indicate that chemical activities will, in the future, be among the most important in every line, and therefore result in development of substances as yet undreamed of for use in peace and war;

AND WHEREAS, failure to be thoroughly prepared for chemical warfare might result in complete defeat of the United States in case of war with a nation that had openly or secretly prepared for chemical warfare;

Therefore, be it resolved, That it is the opinion of the Executive Board of the American Gas Association that chemical warfare is such a complete and distinct science in itself, as well as such a powerful weapon of war, that a strong Chemical Warfare Service should be maintained as a complete and independent department in the United States Army, as a prerequisite to any proper national defense of our country.

October 1, 1919.

New Express Packing Rules on December Tenth

The new rules for safeguarding merchandise in transit by express go into effect on December 10, 1919.

The rules require that all packages over twenty-five pounds in weight be packed in wooden containers, or fiberboard, pulpboard or corrugated strawboard containers of specified test

strengths. The rules will not permit the use of paper wrapping nor of ordinary paper boxes wrapped or unwrapped when the weight of the contents is over twenty-five pounds. The new regulations were authorized by the United States Railroad Administration and are embodied in Supplement No. 5 to Express Classification No. 26, copies of which may be secured at any express office.

Breaks in Small Mains

INFORMATION WANTED BY THE COMMITTEE ON CAST-IRON PIPE STANDARDS

THE following communication has been received by the Committee on Cast-iron Pipe Standards from one of the members of the Association:

"A rather bad break in a 6-inch cast-iron main has brought to my attention the fact that breaks in cast-iron mains at a point back of the bell are frequent enough to suggest that there may be some special cause for it.

"In the standard bell shown on page 9 of the standard specifications of the American Gas Institute, there is shown a sharp ridge back of the bell, which, for all sizes of pipe, is 0.125 inch deep. Apparently it is at this point that mains break.

"I do not mean to infer that these always break at this point, but the term 'broken back of the bell' seems to be heard rather often in our distribution practice.

"I have questioned some of the old foremen and they say it is rather a usual point for a main to break in the small sizes.

"I have carefully examined our 4-inch and 6-inch pipe in stock and there is no question that this point looks weak. You know of course that it is good practice in making castings, to avoid sharp increases in thickness of this kind, and it is always customary to run a fillet to avoid casting strains set up at this point.

"I am offering this suggestion as possibly worthy of the attention of your Committee."

The Committee would be very glad to hear from any of the members who may have any information to give on this subject, for if the present design is really weak in any place, it should be strengthened. As far as Philadelphia's experience goes, there seems to be no reason for a change.

WALTON FORSTALL, *Chairman,*
Committee on Cast-Iron Pipe Standards.

Risk Assumed in Extending Mains for Gas

MR. F. A. STRATTON, President of the Westchester Lighting Company of Mount Vernon, N. Y., has sent us the following information which will be of interest to company members of the Association.

A question arose between the Westchester Lighting Company and Mr. A. W. Lawrence representing a realty Company, regarding the extension of gas mains through a street about to be accepted as a public street, in the city of Yonkers. The new mains were to supply a number of houses being erected by Mr. Lawrence or his company.

The Westchester Lighting Company asked Mr. Lawrence to pay the entire expense, other than the labor in laying the pipe, with the understanding that the amount would be refunded by the gas company at the rate of \$50 for each new consumer connected to the mains in question within ten years. No interest was to be paid to Mr. Lawrence on his investment.

Mr. Lawrence took up the matter with the Mayor of Yonkers and together they discussed it with Chas. B. Hill, Chairman of the Up-State Public Service Commission. At another meeting, on Sept. 24,

Mr. Stratton was present at the request of the chairman, and after a discussion of two and one-half hours, Mr. Lawrence proposed to leave this single case to the chairman as arbitrator. Mr. Hill's decision is given in the following letter sent to Mr. Lawrence and Mr. Stratton.

Gentlemen:

Referring to the laying of gas mains in Longvale Road, I have concluded that a fair proposition would be for the Realty Company to advance to the company the cost of supplying and installing the pipe, the Realty Company digging and backfilling the trench at its own expense. I do not understand that this suggestion applies to or includes the Palmer Avenue extension, the terms for which have already been arranged.

The advance and outlay thus made by the Realty Company to be subject to refund by the Gas Company on the basis of fifty dollars for each consumer connecting

with these pipes or using gas from them during the next ten years. I think ten years would be enough to determine whether or not the development may be called a success. If it is a success, the Realty Company will have received back all of its money, forfeiting only interest thereon; if it is not a success, it will have contributed a sum to the Lighting Company for making a connection which turned out to be unprofitable. I see no reason why in case a sufficient number of consumers is added to make good the Realty Company's expense of digging and backfilling, that should not also be included.

This is not to be taken as in any sense the view of the commission as applicable to this or any other extension, nor is it to be considered in any way as a precedent for commission action.

Yours very truly,

(Signed) CHARLES B. HILL,

Chairman.

The Gas Company's Help

IF history can be our guide, and if it repeats itself, we may well believe that the story of a great war is never all told. When we pause, therefore, to call to the attention of our readers another case in which a gas company gave real and valuable assistance to our country at war, we shall not be accused of offering belated news.

The gas companies of America still have to their credit many an untold story of patriotic action done for the benefit of the nation and we offer the following note for its interest to all gas men whose pride in their profession is second only to their love of country.

When government engineers were running tests at the Washington Navy Yard for the purpose of developing a specificate for lubricating oil for Liberty Engines, great difficulty was experienced in starting the engines in cold weather. It was subsequently found that this diffi-

culty must be overcome, since military needs required that aeronautic engines be ready to operate instantly, irrespective of the weather.

Experiments were therefore started at once by the Lubricating Department to develop a heater which would enable immediate starting of all aeronautic engines in cold weather.

Through the Consolidated Gas, Electric Light and Power Company of Baltimore, arrangements were made to send a Liberty Engine to one of the local cold storage plants in Baltimore where refrigeration tests were run and the services of Mr. C. C. Krausse, a member of the Industrial Fuel Department of the Baltimore Gas Company, were loaned to the Government. Mr. Krausse was sent to Dayton, Ohio, where he worked for two months, until the design of the heater, on which its construction was based, had been brought practically to completion.

A. G. A. at American Steel Treaters' Society

OF INTEREST TO INDUSTRIAL FUEL MEN

IF the enthusiasm and interest shown in the first Convention of the American Steel Treaters Society, held in Chicago on Sept. 23-27, can be taken as a measure of the influence which it will exert in the future development of heat treating problems, it is apparent that the Society's activities will fill a long felt need.

The American Steel Treaters' Society was formed about a year ago and local chapters have since been established in Cleveland, Pittsburgh, Milwaukee, Philadelphia, Cincinnati, Chicago, Rochester, Buffalo and New York. These chapters admit as members those who are in some way connected with the science of heat treatment of steel and also those who are engaged in selling or who are otherwise financially interested in the production of materials, supplies, equipment or apparatus of whatsoever nature, used in the art. This membership now embraces prominent consulting engineers, chemists, metallurgists and others engaged in actual heat treating operations.

Until the formation of the American Steel Treaters' Society there was no coordinating agency to bring together the various opinions on the art of steel treating and therefore no means of an interchange of opinions for the benefit of those engaged in the work. As an indication of the importance which is attached to this matter, we quote from an editorial in one of the Journals of the Society:

An engineer whose name is known around the world because he dared to depart from all precedents, standards and customs in the production of certain lines

of machinery to meet war emergencies and did so successfully, and who was intimately acquainted with production problems involving the heat treatment of steels entering into parts composing the multifarious requirements of the Army and Navy, said to one of our officers: "There should be a dozen or more 'Heat Treating Societies' in this country, all as energetic as yours." Further conversation indicated that millions of dollars and much time (which under existing conditions meant the prolongation of war and loss of life) are lost through lack of knowledge of the art of properly heat treating steel. He gave many "horrible examples" as evidence.

In one or two cities men who are engaged by the gas company have been very active in promoting the local chapters of the Society. From the list mentioned above it will be noted, however, that there are a great many places where no such chapters have been established—cities where there is sufficient activity along the line of heat treating to justify the establishment of such an organization.

Industrial fuel men would find it not only very instructive but an excellent opportunity to further the use of gas in the industries by taking out membership. In places where no local chapter has been formed the gas men should make an effort to establish one. Here is a wonderful opportunity to get the merits of gas fuel before the practical men engaged in heat treating.

During the session meetings, twenty-five papers relating to steel treating were read and discussed. Mr. W. A. Ehlers, Industrial Fuel Engineer of the American Gas Association, was present at the

(Continued on page 575)

Summary of Dyestuffs Bill

(See Page 546)

Mr. Longworth of Ohio: To regulate the importation of coal tar products, to promote the manufacture thereof in the United States, and as incident thereto, to amend the Act of September 8, 1916, entitled, "An Act to increase the revenue and for other purposes."

The Omnibus Revenue Act of September 8, 1916, undertook particularly to deal with the situation relating to dyes. It permitted the free entry of coal tar and the first products of coal tar distillation, such as anthracene, benzol, phenol, etc., and other distillates which, on being subject to distillation yield less than 5 per cent. of tar acids in the portion distilling below 200° C. In other words, "crudes" were to be on the free list.

The present bill leaves them on the free list, although the distillation point fixed at 200° C. in the Act of September 8, 1916, is now made 190° C. and there is some slight revision of the language of the paragraph; thus, to the list of crude tars are added blast furnace tar, oil gas and water gas tar, and the maximum percentage of purity in anthracene is increased from 25 to 30 per cent. and in benzol and carbazol from 25 to 65 per cent.

Intermediates placed under Group II of the Act of September 8, 1916, are derived from "crudes" by chemical processes, but are not themselves dyes. They are now dutiable at 15 per cent. ad valorem, and include such products as anilin oil, benzidin, nitrobenzol, phenol, salicylic acid, etc. The bill proposes to increase the duty to 40 per cent. ad valorem.

Group III which comprises colors and dyes, photographic chemicals or explosives, medicinals or flavors derived from crudes or intermediates, now dutiable at 30 per cent. would be made dutiable at 45 per cent. ad valorem.

Special duties of 2½ cents and 5 cents per pound to apply on Groups II and III respectively (except upon alizarin, dyes obtained from alizarin, anthracene and carbazol, natural and synthetic indigo and indigoids, medicinals and flavors) are provided in the Act of September 8, 1916. These would be increased to 6 cents and 7 cents per pound respectively. These duties, however, would be based on standards of strength established by the Secretary of the Treasury. Upon imports which exceed the standard fixed the duty would be assessed upon the weight which would result if the article were diluted to the standard fixed by the Treasury Department. In no case, however, would the special duty be less than 7 cents per pound. Effective six months after the enactment of the bill, all colors, dyes, color bases, color lakes, etc., imported into the U. S. would have to be plainly marked to show the percentage of basic contents exclusive of diluents. The use of statements, designs, etc., on invoices which are false, misleading or fraudulent would be forbidden under penalty of refusing entry to such shipments. The bases of commercial strength fixed by Secretary of the Treasury would conform to those in use prior to July, 1914.

The provision for decreasing gradually the duties under the Act of September 8, 1916, commencing five years following its enactment is to be abrogated, as is also a provision that such duties are to cease entirely in 1921 if the President finds that 60 per cent. of the domestic consumption is not being produced in the U. S.

Tariff Act of 1913: Paragraphs 20, 21, 22 and 23 (coal tar dyes, colors,—dutiable at 30 per cent., distillates, not medicinals or colors, or dyes, dutiable at 15 per cent., and intermediates—dutiable at 15 per cent.) would be repealed, as would also the following paragraphs: 179 (saccharine, 65 cents per pound), 894 (alizarin, free), 452 (coal tar, free), and 514 (indigo natural or synthetic, free), salicylic acid (2½ cents pound), salol, phenolphthalein, acetanilid, acetphenedin, antipyrine, acetylsalicylic acid and aspirin (25 per cent.), benzoate of soda, (5 cents pound), carbolic and phthalic acids (free). Articles included within paragraphs 1, 5, 14, 29, 37, 46, 63, 501, and 538 of the Tariff Act of 1913, and within Groups I, II and III of the bill would be dutiable as provided by its terms.

The bill would become effective on the day following its approval by the President. Its provisions would apply to all goods covered by it which have been previously imported and which had not been entered at the custom house, or which had been entered duty free under bond and for which no delivery permit had been issued.

In place of the Dye Licensing Commission provided in the bill reported from committee, the House left the Tariff Commission to administer the license plan proposed. It authorizes the commission to issue licenses to import for use in domestic manufacture such of the products covered by the bill as cannot be obtained through domestic sources at reasonable terms as to price, quality and delivery. Licenses would be limited as to quantities required by actual current needs of consuming industries. The commission could not refuse a license to a manufacturer to import for actual use a foreign dye when domestic dyes of equal quality are not immediately available. Products covered by the bill and for the importation of which a license is required, when imported without such license would be forfeited to the United States and destroyed. Persons subject to the jurisdiction of the United States who import or attempt to import any of the articles described without a license would be fined not more than \$5,000 or the value of the product at the time of importation or imprisoned for not more than a year. (H. Rept. No. 209.)

Status: Passed House, 9-26-19.

(Continued from page 574)

convention and took an active part in discussing some of the subjects relating to the various fuels used in heat treating processes.

In the Society's Exhibition there were sixty-five booths displaying materials and apparatus used in the production of machine tools and their proper heat treatment. Of these, there were six booths showing well-known makes of gas-fired apparatus used in the modern heat treatment plant.

Further Correspondence With "Good Housekeeping Institute"

AMONG the other correspondence printed in our Special Bulletin No. 5, was the letter which is addressed to the Director of Good Housekeeping Institute referring to the article which appeared on page sixty-six of the July issue of *Good Housekeeping*. Since the publication of the Special Bulletin we have had some further correspondence with Miss Maddocks, the Director of Good Housekeeping Institute, which may be of interest to our membership and is presented below.

From "Good Housekeeping" to the American Gas Association, July 26, 1919.

MY DEAR MR. FOGG:

Through the courtesy of Mr. Bigelow I have been allowed to see your suggestive criticism in regard to our article on fireless cookery versus gas range cookery.

I can assure you it was with no thought of making a standard method of using a range appear at an unusual disadvantage that the experiment was undertaken. I merely want to accent the fact that both meals were cooked with the idea of making them as well cooked for their several methods of cookery as possible.

Of course, it would not have been wise to have used the gas range without getting the maximum of time saving out of it that is possible. Hence, the free use of the large burners and short time rather than the use of smaller burners over a slightly longer period.

Moreover, the oven cooking of GOOD HOUSEKEEPING INSTITUTE is always by temperature and the roast, etc., was put into the oven as soon as the temperature was correct. The time was recorded then from what actually was required for our work rather than from any arbitrary setting of 30 or 40 minutes of gas that might be required.

The whole thing, it seems to me, merely shows that while the fireless cookers have an advantage at the present time in economy, a range built with a fireless within its oven and built by manufacturers of gas ranges as one

of their line, would find a place in the market, and GOOD HOUSEKEEPING INSTITUTE is confidently looking forward to the time when gas ranges will be built with more ideas of fuel conservation than is at present true.

More ranges are being built with this better construction now than ever but let us have even more.

Finally, while it is true that the oven of a gas range can be used to cook more in than the fireless cooker, I especially accent this point in the article because I did not want housekeepers to misinterpret our point of view. Surely use the large gas oven when the amount of food warrants it.

At the same time I do want to take exception to your idea that housekeepers to-day get a meal and at the same time bake a pie, four loaves of bread, a pan of muffins and an extra vegetable.

As a matter of fact a meal is all a housekeeper tries to cook at one time, and any appliance that required such use in order to make it practical to use, would, I believe, not fulfil a real mission in twentieth century house-keeping.

Cordially yours,
GOOD HOUSEKEEPING INSTITUTE,
(Signed) Mildred Maddocks,
Director.

From the American Gas Association to "Good Housekeeping," August 7, 1919.

DEAR MISS MADDOCKS:

I am in receipt of your letter of July 26, 1919, and am glad to learn that Mr. Bigelow handed you my letter of July 14 to read. I noticed when I read the article in question in *Good Housekeeping* of July, that while your name was mentioned as the Director of the Good Housekeeping Institute, the name of the author of the article itself was not mentioned, so I deemed it advisable to send the letter directly to the Editor of the magazine.

I do not question for a moment the sincerity of your statement that when the article was written there was no thought of making a gas range appear at an unusual disadvantage, but that the desire was principally to emphasize

the economy in using fireless cookers. The point I endeavored to make, however, was that if the gas range had been operated in accordance with modern practice, the difference in the fuel cost, as stated in the article, of the two operations, would have been materially reduced. There is another point in the experiment which, while omitted to be mentioned in the article, is worthy of consideration and that is the additional labor which is required when using a gas range to bring food to the proper cooking temperature and then transferring it to a fireless cooker for complete cooking.

In these days when economy of effort and speed of operation is a material consideration, it is not exactly just to the house-wife to withhold the information that the slight saving in the fuel cost, which really is negligible, by using a fireless cooker, is actually offset by the additional labor necessary to perform the work; aside from the question, which is debatable, as to whether the flavor, taste and general appearance of food when cooked by the fireless method, is equal to that when cooked by a gas range. You state that the oven cooking of Good Housekeeping Institute is always by temperature. That is the proper method, but the moment the proper cooking temperature is reached on a gas range, whether the top or the oven burners are being used, the temperature can be maintained with a greatly diminished flame. To that fact is due the great superiority and economy of using gas for fuel purposes.

There is one fact that should not be lost sight of when attempting to make a comparison between gas ranges and fireless cookers. A gas range is available at all times for all cooking purposes, while a fireless cooker is only available for cooking certain foods. Certainly in speed of operation and in economy of effort, both of which are desirable, a gas range is the superior appliance.

In reference to your statement that

"Good Housekeeping Institute is confidently looking forward to the time when gas ranges will be built with more ideas of fuel conservation than is at present true."

I will say that that subject has been given the most careful and scientific study by the Gas Companies in co-operation with manufacturers of gas ranges during the past five years, with the result that the ranges of to-day are vastly superior to the older ones.

You state in your letter:

"I do want to take exception to your idea that housekeepers to-day get a meal and at the same time bake a pie, four loaves of bread, a pan of muffins and an extra vegetable. As a matter of fact, a meal is all a housekeeper tries to cook at one time, and any appliance that required such use in order to make it practical to use, would, I believe, not fulfil a real mission in twentieth century house-keeping."

Permit me to point out that I did not say that housekeepers, to-day did all of the above cooking when getting a meal, but that the Teachers of Domestic Science, housewives, cooks and in short all who continually operate gas ranges, possess the knowledge that such cooking could be done at the same time, not that it was actually being done as an every day proposition. I certainly did not intend to convey the impression that such cooking was actually required in order to make the range practical to use, nor can I imagine how, from reading my letter, you could possibly have received such an impression.

My intention in making the statement was to point out that the superiority of gas ranges was due to the fact, that they could accomplish so much at the same time, and due to that faculty as well as to their general availability for instant service and efficiency, was the warrant for the claims that their use was in reality a practical economy.

We still hope you will give our views on the subject space in the next issue of *Good Housekeeping*.

Very truly yours,

(Signed) OSCAR H. FOGG,
Secretary-Manager.

From "Good Housekeeping" to the American Gas Association, August 8, 1919.

MY DEAR MR. FOGG:

I thank you heartily for your letter of August 7th and assure you that I have given careful consideration to your points. But as a matter of fact I am sure you will agree with me that the gas range needs no selling argument.

Its use does need educating material and I can assure you that in due course how to use a gas range, how to care for it and how not to abuse it will be given due consideration in

my series of articles on Household Engineering.

Cordially yours,
GOOD HOUSEKEEPING INSTITUTE,
(Signed) Mildred Maddocks,
Director.

From the American Gas Association to "Good Housekeeping," August 26, 1919.

DEAR MISS MADDOCKS:

I very much appreciate your letter of August 8th which has not been acknowledged more promptly because of my absence from the city.

We shall look forward with interest to the other articles in your series on "Household Engineering."

If this organization can be of assistance to you at any time, please have it in mind that we shall regard it as a pleasure to serve you.

Very truly yours,
(Signed) OSCAR H. FOGG,
Secretary-Manager.

From "Good Housekeeping" to the American Gas Association, September 24, 1919.

MY DEAR MR. FOGG:

I was most interested to note in the gas bulletin for August 8, 1919 that you published the beginning only of our interesting correspondence in regard to the use of gas. Was it for lack of space that I did not find your later letters?

May I suggest that in its present form it certainly does an injustice to the position of GOOD HOUSEKEEPING INSTITUTE since you allowed the inference it is unanswerable.

Cordially yours,
GOOD HOUSEKEEPING INSTITUTE,
(Signed) Mildred Maddocks,
Director.

From the American Gas Association to "Good Housekeeping," October 1, 1919.

DEAR MISS MADDOCKS:

Your letter of September 24th has been received and I regret that you feel we have not done justice to the position of *Good Housekeeping* in our recent BULLETIN. Your interesting letters to the Association were not included because our copy was forwarded to the printer on July 24th, although the date of issue was August 8th.

Furthermore, we sincerely believe that through our reference to Good Housekeeping's

own statement of its case as it appeared in the July number, our circle of special readers have all of the facts of interest to them.

BULLETIN No. 5 was prepared to call the attention of gas and manufacturer company members of the Association to certain publicly made statements concerning their product or industry with which they could not fully agree and to show them the attempts of the Association to acquaint the authors or publishers of such statements with the gas man's point of view.

You will recall that we stated in BULLETIN No. 5 that Good Housekeeping Institute had given figures for gas consumption in cooking a meal, in a context which might lead a large number of housekeepers to accept them as typical of the performance of a gas range and that we had written to the Institute to suggest that an unduly large amount of gas had been used and that it would be unfortunate to permit housewives to assume the figures as typical.

When in our several letters we asked that our statements be given space in *Good Housekeeping*, it was with the thought that a wider discussion of the subject might be of benefit to your numerous readers, as reflecting the differing points of view of *Good Housekeeping* and this Association of gas companies, both of whom stand for the ideal of efficient and economical housekeeping.

We are very much interested in your letters of July 26th and August 8th for they gave us a more detailed account of the method whereby, in this case, a meal had been cooked by gas and informed us of your intention to include an article on the gas range in your interesting series. But we are still in doubt as to whether we should be serving your good purpose to any extent by addressing a special communication to our company members—authorities as they are on gas ranges and their use—to give them the final details of our correspondence.

We do not want to indulge in anything that would savor of controversy and we do want to preserve and maintain the most cordial relations with Good Housekeeping Institute for we are both engaged in a work which, while we approach it from somewhat different angles, has the common goal of lightening the burden of housework, particularly in cookery, through the use of efficient and economical appliances.

In any event, I hope you will find it possible to be present at our annual meeting which will

be held at the Hotel Pennsylvania, October 13th to 18th. You will find there most interesting exhibits of gas appliances for cooking and for other uses of gas in the home.

I take pleasure in enclosing a formal invitation, and I assure you that you will be most welcome if you can arrange to attend.

Yours very truly,

(Signed) OSCAR H. FOGG,
Secretary-Manager.

ACCUMULATIVE RATE INCREASE LIST NO. 5

Orders must be forwarded to headquarters at once. The number of copies printed will depend upon the orders received. See page 521, September MONTHLY for announcement and prices.

State Gas Societies Work With National Association

WHEN the newly formed American Gas Association drew up its affiliation agreement for presentation to the State and local gas societies, its purpose was to formulate an agreement under which the local society would keep all of its own individuality and power while receiving from the national association such help as the larger organization can render and, in turn, assisting the national body by active participation in its management through representation on its section managing committees.

That the agreement of affiliation as determined upon and printed in the Association MONTHLY for March, 1919 has proved satisfactory is evidenced by the nine societies which, up to September 15 had signed it. Since that time three more have been added to our list: the Michigan Gas Association, the Pacific Coast Gas Association and the New England Gas Sales Association.

Michigan Votes for Affiliation

The Michigan Gas Association held its twenty-seventh annual convention at the Hotel Statler, in Detroit on September 17-18, 1919. In addition to a program of very timely and well presented papers, the Convention was called upon to make two important decisions. The first concerned the resumption of the Association's gas fellowship work at the University of Michigan, which had

been interrupted during the period of the war. This was decided in the affirmative.

As official representative of the A. G. A., Mr. W. W. Barnes, in an informal and forceful talk, presented the duties, privileges and advantages which affiliation would bring to the Michigan Society and outlined the general work of the A. G. A. in which it would be called upon to participate. The result was a deciding vote in favor of the agreement.

The following officers were elected for 1919-1920:

President—E. C. Campbell, Benton Harbor, Mich.

Vice-President—J. W. Batten, Detroit, Mich.

Secretary-Treasurer—A. G. Schroeder, Grand Rapids, Mich.

The program of papers presented was as follows:

Address of President—Samuel Ball

Coal—F. E. Bourget

Oil—Major E. G. Pratt

The Sales Organization and Its Work—C. W. Johnson

Cultivating Relations with the Architect and Builder—G. D. Halladay

The Radiantfire—W. M. Blinks

Retort House Operation—C. B. Wyckoff

A More Favorable Attitude Toward the Consumer—J. K. Swanson

Where Do We Go From Here?—A. P. Johnson (Editor, *Commonwealth*)

Pacific Coast Gas Association

Mr. Clare N. Stannard, Secretary of The Denver Gas and Electric Light Company was appointed authorized representative of the A. G. A. to attend the twenty-sixth annual Convention of the Pacific Coast Gas Association, held in Los Angeles during the third week of September.

Mr. Stannard was welcomed most cordially by the Pacific gas men and in rendering his report desires to express particular gratitude to the retiring President, John D. Kuster, the Secretary, Henry Bostwick and the Board of Directors for the warm reception accorded him and for the hearty and splendid assistance rendered to bring his mission to a successful issue.

Mr. Stannard, after special correspondence with A. G. A. headquarters, had prepared a masterly statement of the case for affiliation and his presentation of it together with the co-operation of these gentlemen, won the enthusiastic response of the Pacific Association.

In his report Mr. Stannard says: "I wrote to the officials of the Pacific Gas Association and to other influential members and friends and received in reply numerous letters promising careful consideration and support. I received an especially cordial letter from President John D. Kuster, inviting me to attend the Director's meeting held in Los Angeles on Monday night, September 15. I made arrangements to accept the invitation with the result that I appeared before the Directors, and after an explanation in full of the affiliation plan, thus clearing up points heretofore misunderstood, the Board took favorable action, passing a resolution recommending to the members that they favorably consider the affiliation.

"The Board asked me to appear the following morning before the Convention to explain in detail the plan, which was accordingly done. It was then taken under advisement with the understanding that a vote should be taken at the final session on Thursday. At this final session I was again asked to address the members, briefly reviewing the plan. Immediately thereupon, the members, by unanimous vote, adopted the recommendation made by the Directors; in other words, authorized the affiliation. Mr. C. B. Babcock, Past President, offered the motion and Mr. E. C. Jones, another Past President, seconded it.

"At the banquet held Thursday night President Kuster stated that three most important objects had been accomplished during the Convention and the first one mentioned was the affiliation between the two Associations."

During the closing hours of the Convention Mr. Leon B. Jones made a motion, which was immediately carried, expressing the thanks of the Association to Mr. Stannard for his courtesy in attending, in presenting the affiliation plan and in taking part in various other discussions.

In speaking of the Pacific society Mr. Stannard says, "I found the Association in a most flourishing condition with a membership of about 500 of the most active gas men on the Pacific coast. They are doing a wonderful work and the discussions were most interesting and, in fact, inspiring. I feel that the affiliation of the two Associations will be of great value to the industry, especially throughout the West where their influence will extend many miles this side of the Pacific coast."

Roosevelt knew the indebtedness of a man to his profession.

Associations Affiliated with A. G. A.

Canadian Gas Association

Pres.—V. S. McIntyre, Kitchener, Ont.
 V.-Pres.—C. S. Bagg, Montreal, Que.
 E. H. Caughell, St. Thomas, Ont.
 Sec.-Tr.—G. W. Allen, 19 Toronto St.,
 Ontario, Can.
 Conv., 1920.

Illinois Gas Association

Pres.—H. S. Whipple, Rockford, Ill.
 V.-Pres.—W. M. Willett.
 Sec.-Tr.—H. H. Clark, 72 W. Adams St.,
 Chicago, Ill.
 Conv., 1920, March 17-18.

Indiana Gas Association

Pres.—R. A. Ziegler, Anderson, Ind.
 V.-Pres.—J. D. Forrest.
 Sec.-Tr.—E. J. Burke, Citizens Gas Co.,
 Indianapolis, Ind.
 Conv., 1920, April 28.

Iowa District Gas Association

Pres.—Geo. D. Roper, Rockford, Ill.
 V.-Pres.—W. H. Taylor,
 C. N. Chubb.
 Sec. Tr.—H. R. Sterrett, Des Moines Gas Co.,
 Des Moines, Ia.
 Conv., 1920.

Michigan State Gas Association

Pres.—E. C. Campbell, Benton Harbor, Mich.
 V.-Pres.—J. W. Batten, Detroit, Mich.
 Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas
 Light Co., Grand Rapids, Mich.
 Conv., 1920.

New England Association of Gas Engineers

Pres.—A. M. Barnes, Cambridge, Mass.
 V.-Pres.—W. F. Norton,
 Burton Smart.
 Sec.-Tr.—N. W. Gifford, 38 Central Sq.,
 East Boston, Mass.
 Conv., 1920, Feb. 18-19—Boston, Mass.

New England Gas Sales Association

Gov.—William Gould, Boston, Mass.
 Sec.—John B. Anderson, 46 Center St., Brock-
 ton, Mass.
 Treas.—W. T. Pease, Boston, Mass.

New Jersey State Gas Association

Pres.—C. W. Hoy, Glassboro, N. J.
 V.-Pres.—R. H. Garrison.
 Sec.-Tr.—Wm. P. Adams, Millville, N. J.
 Conv., 1920.

Pacific Coast Gas Association

Pres.—A. B. Day, Los Angeles, Calif.
 V.-Pres.—L. B. Jones, San Francisco, Calif.
 Sec.-Tr.—Henry Bostwick, 445 Sutter St., San
 Francisco, Calif.
 Conv., 1920.

Pennsylvania Gas Association

Pres.—G. F. Speaker, Lebanon, Pa.
 V.-Pres.—O. H. Heckert,
 J. L. Mather.
 Sec.-Tr.—L. R. Dutton, Jenkintown, Pa.
 Conv., 1920, April 14-15—Philadelphia, Pa.

Southern Gas Association

Pres.—Noble Clay, Durham, N. C.
 V.-Pres.—E. S. Dickey,
 J. H. Haggerty.
 Sec.-Tr.—M. A. Bowlin, Macon, Ga.
 Conv., 1920, Norfolk, Va.

Wisconsin Gas Association

Pres.—Bruno Rahn, Milwaukee, Wis.
 Sec.-Tr.—Henry Harman, 182 Wisconsin St.,
 Milwaukee, Wis.
 Conv., 1920, Milwaukee, Wis.

OTHER ASSOCIATIONS

Empire State Gas & Electric Association

Pres.—E. H. Palmer, Geneva, N. Y.
 V.-Pres.—H. W. Peck,
 E. H. Rosenquest.
 Sec.-Tr.—C. H. B. Chapin, 29 W. 39th St.,
 New York, N. Y.
 Conv., 1919, Oct. 23-24—Buffalo, N. Y.

Natural Gas Association of America

Pres.—Bert. C. Oliphant, Buffalo, N. Y.
 V.-Pres.—Harry J. Hoover,
 Ogden K. Shannon,
 H. A. Quay.
 Sec.-Tr.—Wm. B. Way, 904-5 Oliver Bldg.,
 Pittsburgh, Pa.
 Conv., 1920, Atlantic City, N. J.

Society of Gas Lighting

Pres.—Alex. H. Strecker, Newark, N. J.
 V.-Pres.—W. Cullen Morris.
 Sec.—Geo. G. Ramsdell, 130 E. 15th St., New
 York, N. Y.
 Treas.—Wm. J. Welsh.
 Conv., 1919, December 11.

Southwestern Electrical and Gas Association

Pres.—Burr Martin, Dallas, Texas.
 V.-Pres.—A. Hardgrave,
 C. E. Corder,
 A. H. Warren.
 Sec.—H. S. Cooper, Slaughter Bldg.,
 Dallas, Texas.
 Treas.—J. B. Walker.
 Conv., 1920.

Texas Gas Association

Pres.—W. H. Sedberry, Marshall, Texas.
 Sec.—C. H. Seidenglanz, Dallas, Texas.
 Conv., 1920.

RECENT ARTICLES IN CHEMICAL PRESS OF INTEREST TO GAS MEN

Contributed by Sub-Committee on Abstracts* of the Chemical Committee

PRODUCER GAS COSTS. Anonymous, *Chem. and Met. Eng.*, Vol. 21, No. 5, 243 (Sept. 1, 1919). A table, published by Steere Engineering Co., Detroit, comparing cost of producer gas per 1,000 cubic feet with costs of other fuels to obtain the same number of B. t. u. as when buying producer gas. A formula corrects for time lost in operation. Comparison is made with natural gas, fuel oil, coal gas or carbureted water gas and blue gas at various prices per ton of coal. (F. W. Sperr, Jr.)

AMMONIA IN PRODUCER GAS. By F. K. Ovitz, *Chem. and Met. Eng.*, Vol. 21, No. 5, 253-255 (Sept. 1, 1919). Tests on producers of Smith type at Hazel-Atlas Glass Co., Washington, Pa., the producers gasifying the fuel at high temperature and using about 1 pound of steam per pound of fuel. Coal used contained $1\frac{1}{2}$ per cent. nitrogen on moisture and ash free basis. An average of 22.11 pounds of ammonium sulphate in the raw gas per pound of coal was found. Between 20-25 per cent. of the total ammonia is in the form of fixed ammonia salts. The figures are based on a production of 130,000 cubic feet of gas per ton of coal. (F. W. Sperr, Jr.)

SHALE RETORT. Patent of C. O. Hoover, (1,305,109; May 27, 1919), *Chem. and Met. Eng.*, Vol. 21, No. 5, 256 (Sept. 1, 1919). A series of narrow vertical retorts, part of the fixed gases being returned for heating purposes; part of the gas also being recirculated through the retort. A regenerator is placed below the retorts. A diagram of the retort is also given. (F. W. Sperr, Jr.)

A NEW COMPENSATED HEATMETER. By Charles P. Frey, *Chem. and Met. Eng.*, Vol. 21, No. 5, 259-261 (Sept. 1, 1919). The Harrison-Foote invention for eliminating the effect of line and thermocouple resistance in pyrometers is incorporated in a new Brown instrument. An adjustable rheostat is placed in the circuit by means of a press

button, to obtain the result. The operation is simple and the instrument is direct reading throughout the entire scale range. A detailed explanation of the theory of the invention is given. (F. W. Sperr, Jr.)

TOLEDO JOINT SECTION NEWS

Mr. D. H. Shapiro reports that by a new plan the Joint Section will separate into its four component parts for educational classes, each national association group to hold a meeting once a month. Mr. Neal Phillips has been appointed chairman of the American Gas Association group and Mr. G. B. Downs will represent the Joint Section at the Association Convention from October 13 to October 18.

The Section has an extremely active Welfare Committee which visits sick members and looks after cases where financial help is needed. The Membership Committee also deserves mention for its efforts which added fifty new members during September. A class in automobile mechanics for the drivers of company or private cars is proving very popular.

The opening meeting of the Section on September 26 was given over to an entertainment that won much praise.

Mr. Shapiro is resigning as assistant secretary of the Section and his place will be taken by J. P. Merkle, also chairman of the A. E. R. A. group.

"Every man owes some of his time to the upbuilding of the profession to which he belongs." —Theodore Roosevelt

* Abstractors' names appear in brackets following each item.

Clearing House for Employers and Employees

Services Wanted

Wanted Manager for northern New York town. Man 40-50 years of age. Complete charge of plant. Output 10,000,000 cu. ft. per year. Situation offers attractive home and environment and will entail but few hours supervision daily—gives opportunity for utilizing part of time for personal interest. Salary \$1200-\$1400.

WITH this issue the Association MONTHLY again opens its columns to both the company that is looking for assistance in the carrying on of its work of serving its community with gas and the individual who offers his abilities and talents to the gas industry.

No industry can attain and hold its proper place unless its employers can

secure earnest, active, intelligent men and women to carry out the details of work involved in service it offers and at the same time, each employee must find a place congenial to his likes and suited to his talents.

To assist in what measure it may be possible in thus bringing employer and employee together for mutual benefit which will reflect upon the industry as a whole, the Association will keep an up-to-date file of all requests for men or positions. Each request will be treated as a confidential matter and an individual case deserving of the best efforts of the Association. This service is established for your use; its value will depend upon the extent to which our members turn to it for assistance in their problems concerning labor and employment.

New Members Enrolled in the American Gas Association, Inc. September 1—October 7, 1919.

GAS COMPANY MEMBERS

The Bridgeport Gas Light Co.	George W. Roberts, Bridgeport, Conn.
The Meriden Gas Light Co.	Charles A. Learned, Meriden, Conn.
The Torrington Electric Light Co.	Frank M. Travis, Torrington, Conn.
The Winsted Gas Co.	Frank M. Travis, Winsted, Conn.
Central Maine Power Co.	George S. Williams, Augusta, Me.
York County Power Co.	John L. Murray, Biddeford, Me.
Portsmouth Gas Co.	E. Seybolt, Portsmouth, N. H.
Standard Gas Co.	R. H. Garrison, Atlantic Highlands, N. J.
Portland Gas & Coke Co.	Hilmar Papst, Portland, Ore.
Hyde Park Gas Co.	Joseph Jeffrey, Scranton, Pa.

MANUFACTURING COMPANY MEMBERS

The Barrett Co.	W. N. McIlravy, New York, N. Y.
Chambers Manufacturing Co.	K. J. De Prez, Shelbyville, Ind.
Davis & Farnum Mfg. Co.	George W. Eccles, Waltham, Mass.
The Dayton Manufacturing Co.	R. J. Hutchins, Dayton, Ohio
Dodd Heating Systems, Ltd.	E. M. Paterson, Toronto, Ont., Can.
Elliott Water Heater Co.	W. J. Elliott, New York, N. Y.
Gas Purifying Materials Co.	O. H. Smith, Long Island City, N. Y.
J. H. Gautier & Co.	A. E. Acheson, Jersey City, N. J.
Johnson Gas Appliance Co.	T. E. Rooke, Cedar Rapids, Iowa
Passaic Metal Packing Co.	W. H. Heyne, Jr., Passaic, N. J.
The Sanitary Heating Co.	William H. Schofield, Brooklyn, N. Y.
Schaeffer & Budenburg Mfg. Co.	Brooklyn, N. Y.

Active Members

ALABAMA

Semet Solvay Co., Fairfield
R. L. Ellis

DISTRICT OF COLUMBIA

Washington Gas Light Co., Washington
Thomas F. Holden
James S. McIlheny
Louis N. Rancke

ILLINOIS

Peoples Gas Light & Coke Co., Chicago
P. M. Spies
Sanderson & Porter, Chicago
Cecil F. Elmes

INDIANA

The Steel & Tube Co. of America, Indiana
Harbor
J. Seton Gray

IOWA

Citizens Gas & Electric Co., Waterloo
H. B. Maynard

MARYLAND

Consolidated Gas, Electric Light & Power Co.,
Baltimore
William B. Carter
John F. Cassell
John T. Griffin
Albert Kreckel
F. E. Rasmers
Charles O. Schobel

MASSACHUSETTS

Citizens Gas Light Co., Quincy
John J. Quinn

MICHIGAN

Lansing Fuel & Gas Co., Lansing
Clark R. Graves

MISSOURI

Laclede Gas Light Co., St. Louis
A. J. Gallaher

NEW JERSEY

Camden Coke Co., Camden
James N. Downey

NEW YORK

Municipal Gas Co., Albany
Ralph L. Manier
East River Gas Co., Long Island City
Joseph A. Cushing
New Amsterdam Gas Co., Long Island City
Spencer A. Covell
Consolidated Gas Co. of New York, New York
R. I. Case
John T. Farley
James M. Knowles
R. H. Maurer
Frank J. Reimers
Richard Shepard
John Stilwell
Henry L. Doherty & Co., New York
Thomas B. Pratt

New York Mutual Gas Light Co., New York
George W. Shenton
Northern Union Gas Co., New York
Frank A. Hooker
Nicholas Perruna
Standard Gas Light Co., New York
Marshall Cornine
New York & Richmond Gas Co., Stapleton
Thomas F. Curley

PENNSYLVANIA

American Gas Co., Philadelphia
Arthur S. Butterworth
William M. White
Lovekin Water Heater Co., Philadelphia
Harry W. Brown
Philip D. Fowler
Philadelphia Gas Works, Philadelphia
James G. Davis
Dorr P. Hartson
Rathbone, Sard & Co., Philadelphia
Harry G. Peck
The United Gas Improvement Co., Philadelphia
Bernard V. Pfeiffer

RHODE ISLAND

The Newport Gas Light Co., Newport
Andrew K. Quinn
Welsbach Co., Providence
Edward W. Coit

SOUTH CAROLINA

Sumter Gas & Power Co., Sumter
Edward E. Austin

VIRGINIA

Henrico County Gas Co., Richmond
George W. Rhodes

WISCONSIN

The Milwaukee Coke & Gas Co., Milwaukee
Ernest F. Burdick
S. H. Hunt

NAMES WANTED

Members of the A. G. A., especially heads of companies, are requested to send us *at once*, a list of the deaths which they know have occurred in our membership since June, 1918. Give name, former address and employment, date of death, and in the case of men in service, such details as are known.

The obituary lists for the *Proceedings* are being compiled and all information must reach us as soon as possible.

Classified Directory--Manufacturers of Gas Equipment

Company Members Only, American Gas Association, Inc.

ARC LAMPS (Gas)

General Gas Light Co., New York, N. Y.,
and Kalamazoo, Mich.
Johnson Gas Appliance Co., Cedar Rapids,
Iowa
Welsbach Co., Gloucester, N. J.

BENCHES

Russell Engineering Co., St. Louis, Mo.
The Gas Machinery Co., Inc., Cleveland,
Ohio
The U. G. I. Contracting Co., Broad &
Arch Sts., Philadelphia, Pa.

BENCH IRON WORK

Davis & Farnum Mfg. Co., Waltham,
Mass.
Isbell-Porter Co., Newark, N. J.
Russell Engineering Co., St. Louis, Mo.
The Bartlett Hayward Co., Baltimore, Md.
The Gas Machinery Co., Cleveland, Ohio
The Improved Equipment Co., 60 Wall
St., New York, N. Y.
The Parker-Russell Mining & Mfg. Co.,
St. Louis, Mo.
The Stacey Mfg. Co., Cincinnati, Ohio
The Western Gas Construction Co., Fort
Wayne, Ind.

BOILERS (Gas)

Wm. M. Crane Co., 16 W. 32d St., New
York, N. Y.
General Gas Appliance Co., 103 Park Ave.,
New York, N. Y.
Wm. Kane Mfg. Co., Inc., 1915 Adams
St., Philadelphia, Pa.
Kidde & Co., 169 Chambers St., New
York, N. Y.
F. W. Ofeldt & Sons, Nyack, N. Y.
The Bryant Heater & Mfg. Co., Cleve-
land, Ohio
The Improved Appliance Co., 419 Kent
Ave., Brooklyn, N. Y.

BOILERS (Gas for House Heating)

Dodd Heating Systems Limited, Toronto,
Ont.
Kidde & Co., 169 Chambers St., New
York, N. Y.
The Bryant Heater & Mfg. Co., Cleve-
land, Ohio

BOILERS (Waste Heat)

The Bartlett Hayward Co., Baltimore, Md.
The U. G. I. Contracting Co., Broad &
Arch Sts., Philadelphia, Pa.

BLOWERS, BOOSTERS, EXHAUSTERS

Connelly Iron Sponge & Governor Co.,
227 Fulton St., New York, N. Y.
Isbell-Porter Co., Newark, N. J.
Maxon-Premix Burner Co., Muncie, Ind.
The Gas Machinery Co., Cleveland, Ohio

The Improved Appliance Co., 419 Kent
Ave., Brooklyn, N. Y.
The C. M. Kemp Mfg. Co., Baltimore, Md.
The Surface Combustion Co., 366 Gerard
Ave., Bronx, N. Y.
The U. G. I. Contracting Co., Broad &
Arch Sts., Philadelphia, Pa.
The Western Gas Construction Co., Fort
Wayne, Ind.
Wilbraham-Green Blower Co., Pottstown,
Pa.
L. J. Wing Mfg. Co., 362 West 13th St.,
New York, N. Y.

BRAZING TABLES

Rathbone, Sard & Co., Albany, N. Y.
The Improved Appliance Co., 419 Kent
Ave., Brooklyn, N. Y.

BROILERS (Hotel)

Geo. M. Clark & Co., Div., Chicago, Ill.
Wm. M. Crane Co., 16 W. 32d St., New
York, N. Y.
Rathbone, Sard & Co., Albany, N. Y.
The Michigan Stove Co., Detroit, Mich.

BURNERS (Industrial)

Wm. M. Crane Co., 16 W. 32d St., New
York, N. Y.
Equitable Meter Co., Pittsburgh, Pa.
General Fire Extinguisher Co., Provi-
dence, R. I.
General Gas Appliance Co., 103 Park Ave.,
New York, N. Y.
International Hale Gas Mixer Co., Provi-
dence, R. I.
Johnson Gas Appliance Co., Cedar Rapids,
Iowa
Maxon-Premix Burner Co., Muncie, Ind.
Tate-Jones & Co., Inc., 50 Church St.,
New York, N. Y.
The Baltimore Gas Appliance & Mfg. Co.,
Baltimore, Md.
The Eclipse Stove Co., Mansfield, Ohio
The Improved Appliance Co., 419 Kent
Ave., Brooklyn, N. Y.
The C. M. Kemp Mfg. Co., Baltimore, Md.
The Surface Combustion Co., 366 Gerard
Ave., Bronx, N. Y.
The A. H. Wolff Gas Radiator Co., 4
Great Jones St., New York, N. Y.

BURNERS (Lighting)

American Meter Co., Inc., 105 W. 40th
St., New York, N. Y.
Wm. M. Crane Co., 16 W. 32d St., New
York, N. Y.
General Gas Light Co., New York, N. Y.,
and Kalamazoo, Mich.
Johnson Gas Appliance Co., Cedar Rapids,
Iowa
Lindsay Light Co., New York, N. Y., and
Chicago, Ill.
Welsbach Co., Gloucester, N. J.

BY-PRODUCT OVENS

By-Product Coke Corp., Chicago, Ill.
 Semet-Solvay Co., Syracuse, N. Y.
 The Gas Machinery Co., Cleveland, Ohio
 The Improved Equipment Co., 60 Wall
 St., New York, N. Y.
 The Koppers Co., Pittsburgh, Pa.
 The Parker-Russell Mining & Mfg. Co.,
 St. Louis, Mo.

BY-PRODUCT RECOVERY APPARATUS

Isbell-Porter Co., Newark, N. J.
 The Bartlett Hayward Co., Baltimore, Md.
 The Gas Machinery Co., Cleveland, Ohio
 The Koppers Co., Pittsburgh, Pa.
 The U. G. I. Contracting Co., Broad &
 Arch Sts., Philadelphia, Pa.
 The Western Gas Construction Co., Fort
 Wayne, Ind.

CALORIMETERS

American Meter Co., Inc., 105 W. 40th
 St., New York, N. Y.
 D. McDonald & Co., Albany, N. Y.
 Maryland Meter Works, Baltimore, Md.
 Nathaniel Tufts Meter Works, 455 Com-
 mercial St., Boston, Mass.
 Superior Meter Co., Brooklyn, N. Y.

CASING, TUBING (Steel)

National Tube Co., Frick Bldg., Pitts-
 burgh, Pa.

CHARGING COAL

Isbell-Porter Co., Newark, N. J.
 The Bartlett Hayward Co., Baltimore, Md.
 The Gas Machinery Co., Cleveland, Ohio
 The Western Gas Construction Co., Fort
 Wayne, Ind.

COAL AND COKE (Conveyors, Crushers, Screeners)

R. H. Beaumont Co., 315 Arch St., Phila-
 delphia, Pa.
 Isbell-Porter Co., Newark, N. J.
 The Bartlett Hayward Co., Baltimore, Md.
 The Gas Machinery Co., Cleveland, Ohio
 The U. G. I. Contracting Co., Broad &
 Arch Sts., Philadelphia, Pa.

COCKS (Ranges, Water Heaters, Service and Meter)

A-B Stove Co., Battle Creek, Mich.
 Claus Automatic Gas Cock Co., Milwau-
 kee, Wis.
 Hays Mfg. Co., Inc., Erie, Pa.
 Johnson Gas Appliance Co., Cedar Rapids,
 Iowa
 Kitson Co., 2837 Oakford St., Philadel-
 phia, Pa.
 H. Mueller Mfg. Co., New York, N. Y.,
 and Decatur, Ill.
 Standard Brass Works, Detroit, Mich.
 The Improved Appliance Co., 419 Kent
 Ave., Brooklyn, N. Y.
 The Roberts Brass Mfg. Co., Detroit,
 Mich.

COMPRESSORS

Plant Engineering & Equipment Co., 192
 Broadway, New York, N. Y.

The Improved Appliance Co., 419 Kent
 Ave., Brooklyn, N. Y.
 The C. M. Kemp Mfg. Co., Baltimore, Md.
 The Surface Combustion Co., 366 Gerard
 Ave., Bronx, N. Y.

CONDENSERS

Camden Iron Works, Camden, N. J.
 Cruse-Kemper Co., Ambler, Pa.
 Davis & Farnum Mfg. Co., Waltham,
 Mass.
 Isbell-Porter Co., Newark, N. J.
 Steere Engineering Co., Detroit, Mich.
 The Bartlett Hayward Co., Baltimore, Md.
 The Gas Machinery Co., Cleveland, Ohio
 The Stacey Mfg. Co., Cincinnati, Ohio
 The Stacey Bros. Gas Construction Co.,
 Cincinnati, Ohio
 The U. G. I. Contracting Co., Broad &
 Arch Sts., Philadelphia, Pa.
 The Western Gas Construction Co., Fort
 Wayne, Ind.

COOKING AUXILIARIES

Wm. M. Crane Co., 16 W. 32d St., New
 York, N. Y.
 Duparquet, Huot & Moneuse Co., 108 W.
 22nd St., New York, N. Y.
 Johnson Gas Appliance Co., Cedar Rapids,
 Iowa
 The G. S. Blodgett Co., Burlington, Vt.
 The General Gas Appliance Co., 103 Park
 Ave., New York, N. Y.
 The Improved Appliance Co., 419 Kent
 Ave., Brooklyn, N. Y.

COUPLINGS

S. R. Dresser Mfg. Co., Bradford, Pa.

CYLINDERS (Pressure)

National Tube Co., Frick Bldg., Pitts-
 burgh, Pa.

DECALCOMANIA PRODUCTS

The Meyercord Co., Inc., Chamber of
 Commerce Bldg., Chicago, Ill.

ELECTRIC CONTROLLING DEVICES

The Cutler-Hammer Mfg. Co., Milwau-
 kee, Wis.

EXCHANGERS (Heat)

The Bartlett Hayward Co., Baltimore, Md.
 The Western Gas Construction Co., Fort
 Wayne, Ind.

EXPERT APPRAISAL

Steere Engineering Co., Detroit, Mich.
 The U. G. I. Contracting Co., Broad &
 Arch Sts., Philadelphia, Pa.

EXTRACTORS (Tar, Dust, Fumes)

Isbell-Porter Co., Newark, N. J.
 The Bartlett Hayward Co., Baltimore, Md.
 The U. G. I. Contracting Co., Broad &
 Arch Sts., Philadelphia, Pa.
 The Western Gas Construction Co., Fort
 Wayne, Ind.

FITTINGS

A-B Stove Co., Battle Creek, Mich.
 Will W. Barnes, 31 Chelsea Place, East
 Orange, N. J.
 Claus Automatic Gas Cock Co., Milwau-
 kee, Wis.

Davis & Farnum Mfg. Co., Waltham, Mass.

S. R. Dresser Mfg. Co., Bradford, Pa.

Eriez Stove & Mfg. Co., Erie, Pa.

General Fire Extinguisher Co., Providence, R. I.

Kitson Co., 2827 Oakford St., Philadelphia, Pa.

H. Mueller Mfg. Co., New York, N. Y., and Decatur, Ill.

Shapiro & Aronson, Inc., 20 Warren St., New York, N. Y.

Standard Brass Works, Detroit, Mich.

The Gas Machinery Co., Cleveland, Ohio

The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

The Roberts Brass Mfg. Co., Detroit, Mich.

The Western Gas Construction Co., Fort Wayne, Ind.

Welsbach Co., Gloucester, N. J.

FITTINGS (Malleable Iron)

Stanley G. Flagg & Co., 1421 Chestnut St., Philadelphia, Pa.

FLEXIBLE TUBING

Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.

Titeflex Metal Hose Corp., Badger Ave., Newark, N. J.

FLASHLIGHTS AND BATTERIES

Will W. Barnes, 31 Chelsea Place, East Orange, N. J.

FUEL BRIQUETTING

General Briquetting Co., 25 Broad St., New York, N. Y.

FURNACES

Eriez Stove & Mfg. Co., Erie, Pa.

Geist Mfg. Co., Atlantic City, N. J.

Johnson Gas Appliance Co., Cedar Rapids, Iowa

Maxon-Premix Burner Co., Muncie, Ind.

Russell Engineering Co., St. Louis, Mo.

Tate-Jones & Co., Inc., 50 Church St., New York, N. Y.

The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.

The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.

GAS ENGINES

The Bartlett Hayward Co., Baltimore, Md.

United Lead Co., 111 Broadway, New York, N. Y.

GAS ENGINE COCKS AND VALVES

Standard Brass Works, Detroit, Mich.

GAS IRONS

A-B Stove Co., Battle Creek, Mich.

Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.

Johnson Gas Appliance Co., Cedar Rapids, Iowa

Milwaukee Gas Specialty Co., Milwaukee, Wis.

Perfect Combustion Co., Chicago, Ill.

Strause Gas Iron Co., Philadelphia, Pa.

GAS MIXERS

Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.

Eriez Stove & Mfg. Co., Erie, Pa.

Geist Mfg. Co., Atlantic City, N. J.

General Fire Extinguisher Co., Providence, R. I.

Hays Mfg. Co., Inc., Erie, Pa.

Improved Appliance Co., Inc., 419 Kent Ave., Brooklyn, N. Y.

International Hale Gas Mixer Co., Providence, R. I.

Johnson Gas Appliance Co., Cedar Rapids, Iowa

Maxon-Premix Burner Co., Muncie, Ind.

Strait & Richards, Inc., Newark, N. J.

Tate-Jones & Co., Inc., 50 Church St., New York, N. Y.

The C. M. Kemp Mfg. Co., Baltimore, Md.

The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.

GAS PLANTS (Blue)

The Bartlett Hayward Co., Baltimore, Md.

The Gas Machinery Co., Cleveland, Ohio

The Improved Equipment Co., 60 Wall St., New York, N. Y.

The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.

The Western Gas Construction Co., Fort Wayne, Ind.

GAS PLANTS (Carbureted Water)

Gas Machinery Co., Cleveland, Ohio

The Bartlett Hayward Co., Baltimore, Md.

The Improved Equipment Co., 60 Wall St., New York, N. Y.

The Stacey Mfg. Co., Cincinnati, Ohio

The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.

The Western Gas Construction Co., Fort Wayne, Ind.

GAS PLANTS (Coal) (Engineers)

Camden Iron Works, Camden, N. J.

Davis & Farnum Mfg. Co., Waltham, Mass.

Isbell-Porter Co., Newark, N. J.

Russell Engineering Co., St. Louis, Mo.

Semet-Solvay Co., Syracuse, N. Y.

Steere Engineering Co., Detroit, Mich.

The Bartlett Hayward Co., Baltimore, Md.

The Gas Machinery Co., Cleveland, Ohio

The Improved Equipment Co., 60 Wall St., New York, N. Y.

The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.

The Stacey Mfg. Co., Cincinnati, Ohio

The Stacey Bros. Gas Construction Co., Cincinnati, Ohio

The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.

The Western Gas Construction Co., Fort Wayne, Ind.

HEATERS (Room)

Geo. M. Clark & Co. Div., Chicago, Ill.

Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.

Detroit Stove Works, Detroit, Mich.
Eclipse Gas Stove Co., Rockford, Ill.
Eriez Stove & Mfg. Co., Erie, Pa.
Estate Stove Co., Hamilton, Ohio
Geist Mfg. Co., Atlantic City, N. J.
General Fire Extinguisher Co., Providence, R. I.

General Gas Light Co., New York, N. Y.,
and Kalamazoo, Mich.
Illinois Specialty Mfg. Co., Bloomington,
Ill.

Kidde & Co., 169 Chambers St., New
York, N. Y.

Lawson Mfg. Co., Pittsburgh, Pa.
New Process Stove Co. Div., Cleveland,
Ohio.

Reliable Stove Co. Div., Cleveland, Ohio.
Reznor Mfg. Co., Mercer, Pa.
Roberts & Mander Stove Co., Philadel-
phia, Pa.

J. B. Slattery & Bro. Inc., 108-110 Law-
rence St., Brooklyn, N. Y.

Strait & Richards, Inc., Newark, N. J.
The Baltimore Gas Appliance & Mfg. Co.,
Baltimore, Md.

The Mead Gas Heater Co., Delawanna,
N. J.

The Ohio State Stove & Mfg. Co.,
Columbus, Ohio.

The Western Gas Construction Co., Fort
Wayne, Ind.

The A. H. Wolff Gas Radiator Co., 4
Great Jones St., New York, N. Y.

HEATERS (Garage)

Kidde & Co., 169 Chambers St., New
York, N. Y.

HEATERS (Pressing and Soldering Irons)

Geo. M. Clark & Co. Div., Chicago, Ill.
Wm. M. Crane Co., 16 W. 32d St., New
York, N. Y.

Eclipse Gas Stove Co., Rockford, Ill.
Estate Stove Co., Hamilton, Ohio
General Gas Appliance Co., 103 Park Ave.,
New York, N. Y.

Johnson Gas Appliance Co., Cedar Rapids,
Iowa

Strait & Richards, Inc., Newark, N. J.
The Bryant Heater & Mfg. Co., Cleve-
land, Ohio

The Improved Appliance Co., 419 Kent
Ave., Brooklyn, N. Y.

HIGH PRESSURE SYSTEMS

Connelly Iron Sponge & Governor Co.,
227 Fulton St., New York, N. Y.
General Fire Extinguisher Co., Provi-
dence, R. I.

H. Mueller Mfg. Co., New York, N. Y.,
and Decatur, Ill.

Selas Co., 521 W. 23d St., New York,
N. Y.

The Gas Machinery Co., Cleveland, Ohio
The C. M. Kemp Mfg. Co., Baltimore, Md.

The Surface Combustion Co., 366 Gerard
Ave., Bronx, N. Y.

HOT PLATES

A-B Stove Co., Battle Creek, Mich.
Geo. M. Clark & Co. Div., Chicago, Ill.
Wm. M. Crane Co., 16 W. 32d St., New
York, N. Y.

Detroit Stove Works, Detroit, Mich.
Eclipse Gas Stove Co., Rockford, Ill.
Eriez Stove & Mfg. Co., Erie, Pa.
General Gas Appliance Co., 103 Park Ave.,
New York, N. Y.

Rathbone, Sard & Co., Albany, N. Y.
J. B. Slattery & Bro., Inc., 108-110 Law-
rence St., Brooklyn, N. Y.

The Baltimore Gas Appliance & Mfg. Co.,
Baltimore, Md.

The Eclipse Stove Co., Mansfield, Ohio
The Improved Appliance Co., 419 Kent
Ave., Brooklyn, N. Y.

The Michigan Stove Co., Detroit, Mich.
The A. H. Wolff Gas Radiator Co., 4
Great Jones St., New York, N. Y.

The Ohio State Stove & Mfg. Co.,
Columbus, Ohio.

Union Stove Works, 20 Beekman St.,
New York, N. Y.

Weir Stove Co., Taunton, Mass.

INCINERATORS

Estate Stove Co., Hamilton, Ohio
Ruud Mfg. Co., Pittsburgh, Pa.

INSTRUMENTS (Measuring, Testing and Recording)

American Meter Co., 105 W. 40th St.,
New York, N. Y.

Bacharach Industrial Instrument Co.,
Pittsburgh, Pa.

Bailey Meter Co., Cleveland, Ohio.
Connelly Iron Sponge & Governor Co.,
227 Fulton St., New York, N. Y.

Equitable Meter Co., Pittsburgh, Pa.
D. McDonald & Co., Albany, N. Y.

Maryland Meter Works, Baltimore, Md.
Republic Flow Meters Co., 565 Washing-
ton Blvd., Chicago, Ill.

Steere Engineering Co., Detroit, Mich.
The U. G. I. Contracting Co., Broad &
Arch Sts., Philadelphia, Pa.

The Western Gas Construction Co., Fort
Wayne, Ind.

INSULATING MATERIALS

Celite Products Co., 11 Broadway, New
York, N. Y.

Davis & Farnum Mfg. Co., Waltham,
Mass.

KILNS (For Firing Glass, China and Pottery)

B. F. Drakenfeld & Co., Inc., 50 Murray
St., New York, N. Y.

General Gas Appliance Co., 103 Park Ave.,
New York, N. Y.

Russell Engineering Co., St. Louis, Mo.
The Improved Appliance Co., 419 Kent
Ave., Brooklyn, N. Y.

The Parker-Russell Mining & Mfg. Co.,
St. Louis, Mo.

The Surface Combustion Co., 366 Gerard
Ave., Bronx, N. Y.

LIGHTERS (Ranges)

Claus Automatic Gas Cock Co., Milwan-
kee, Wis.

Milwaukee Gas Specialty Co., Milwaukee,
Wis.

Safety Gas Lighter Co., Haverhill, Mass.
Strause Gas Iron Co., Philadelphia, Pa.

The Michigan Stove Co., Detroit, Mich.
Welsbach Co., Gloucester, N. J.

LIGHTING (Fixtures)

Will W. Barnes, 31 Chelsea Place, East
Orange, N. J.
Shapiro & Aronson, Inc., 20 Warren St.,
New York, N. Y.
Welsbach Co., Gloucester, N. J.

LIGHTING (Gas Domes, Portables, etc.)

Will W. Barnes, 31 Chelsea Place, East
Orange, N. J.
Kramer Bros. Lamp Co., 585 Broadway,
New York, N. Y.
Shapiro & Aronson, Inc., 20 Warren St.,
New York, N. Y.
Welsbach Co., Gloucester, N. J.

LIGHTING (Glassware)

Shapiro & Aronson, Inc., 20 Warren St.,
New York, N. Y.
Welsbach Co., Gloucester, N. J.

LIGHTING (Incidentals)

Storrs Mica Co., Owego, N. Y.

LIGHTING (Mantles)

General Gas Light Co., New York, N. Y.,
and Kalamazoo, Mich.
Lindsay Light Co., New York, N. Y., and
Chicago, Ill.
Welsbach Co., Gloucester, N. J.

METAL RECEPTACLES

Wm. M. Crane Co., 16 W. 32d St., New
York, N. Y.
The Improved Appliance Co., 419 Kent
Ave., Brooklyn, N. Y.
The Surface Combustion Co., 366 Gerard
Ave., Bronx, N. Y.
United Lead Co., 111 Broadway, New
York, N. Y.

METERS

American Meter Co., 105 W. 40th St.,
New York, N. Y.
Bacharach Industrial Instrument Co.,
Pittsburgh, Pa.
Bailey Meter Co., Cleveland, Ohio.
Cleveland Gas Meter Co., Cleveland, Ohio
Equitable Meter Co., Pittsburgh, Pa.
John J. Griffin & Co., 1521 Race St., Phila-
delphia, Pa.
Helme & McIlhenny, 1349 Cherry St.,
Philadelphia, Pa.
D. McDonald & Co., Albany, N. Y.
Maryland Meter Works, Baltimore, Md.
Metric Metal Works, Erie, Pa.
Rotary Meter Co., 52 Vanderbilt Ave.,
New York, N. Y.
Superior Meter Co., Bush Terminal,
Brooklyn, N. Y.
The Cleveland Rotary Meter Co., Cleve-
land, Ohio
The Cutler-Hammer Mfg. Co., Milwau-
kee, Wis.
The Sprague Meter Co., Bridgeport, Conn.
Nathaniel Tufts Meter Works, 455 Com-
mercial St., Boston, Mass.

METERS (Air and Steam)

Republic Flow Meters Co., 565 Washing-
ton Blvd., Chicago, Ill.
The U. G. I. Contracting Co., Broad &
Arch Sts., Philadelphia, Pa.

METER CONNECTIONS, SEALS, Etc.

American Meter Co., 105 W. 40th St.,
New York, N. Y.
Cleveland Gas Meter Co., Cleveland, Ohio
S. R. Dresser Mfg. Co., Bradford, Pa.
Equitable Meter Co., Pittsburgh, Pa.
Helme & McIlhenny, 1349 Cherry St.,
Philadelphia, Pa.
D. McDonald & Co., Albany, N. Y.
H. Mueller Mfg. Co., New York, N. Y.,
and Decatur, Ill.
Superior Meter Co., Bush Terminal,
Brooklyn, N. Y.
The Lattimer Stevens Co., Columbus, Ohio
The Sprague Meter Co., Bridgeport, Conn.
Nathaniel Tufts Meter Works, 455 Com-
mercial St., Boston, Mass.

METER PROVERS

American Meter Co., 105 W. 40th St.,
New York, N. Y.
Equitable Meter Co., Pittsburgh, Pa.
John J. Griffin & Co., Philadelphia, Pa.
Helme & McIlhenny, 1349 Cherry St.,
Philadelphia, Pa.
D. McDonald & Co. Albany, N. Y.
Maryland Meter Works, Baltimore, Md.
Superior Meter Co., Bush Terminal,
Brooklyn, N. Y.
Nathaniel Tufts Meter Works, 455 Com-
mercial St., Boston, Mass.

METER SHELF

Wm. M. Crane Co., 16 W. 32d St., New
York, N. Y.

OFFICE LABOR SAVING DEVICES

Addressograph Co., Chicago, Ill.
Burroughs Adding Machine Co., Detroit,
Mich.
Elliott-Fisher Co., Harrisburg, Pa.
Kalamazoo Loose-Leaf Binder Co., Kala-
mazoo, Mich.
Library Bureau, Boston, Mass.
Monroe Calculating Machine Co., Wool-
worth Bldg., New York, N. Y.
The Rand Co., North Tonawanda, N. Y.
Underwood Typewriter Co., Vesey St.,
New York, N. Y.

OIL (Diaphragm)

John J. Griffin & Co., 1521 Race St., Phila-
delphia, Pa.
Superior Meter Co., Brooklyn, N. Y.

OVENS (Baking and Cooking)

Geo. M. Clark & Co. Div., Chicago, Ill.
Wm. M. Crane Co., 16 W. 32d St., New
York, N. Y.
Eclipse Gas Stove Co., Rockford, Ill.
General Fire Extinguisher Co., Provi-
dence, R. I.
General Gas Appliance Co., 103 Park Ave.,
New York, N. Y.
Meek Oven Mfg. Co., 18 W. 34th St., New
York, N. Y.

The G. S. Blodgett Co., Burlington, Vt.
 The Crandall-Petee Co., Hudson St., New York, N. Y.
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 The Ohio State Stove & Mfg. Co., Columbus, Ohio
 The Union Steel Products Co., Ltd., Albion, Mich.
 The Surface Combustion Co., 366 Gerard Ave., Bronx, N. Y.

OVENS (Annealing, Japanning, Drying, Core, etc.)

Gehrich Indirect Heat Oven Co., Inc., 62 Franklin Ave., Brooklyn, N. Y.
 General Fire Extinguisher Co., Providence, R. I.
 General Gas Appliance Co., 103 Park Ave., New York, N. Y.
 Johnson Gas Appliance Co., Cedar Rapids, Iowa
 Meek Oven Mfg. Co., 18 W. 34th St., New York, N. Y.
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 The C. M. Kemp Mfg. Co., Baltimore, Md.
 The Surface Combustion Co., 366 Gerard Ave., New York, N. Y.
 The Union Steel Products Co., Ltd., Albion, Mich.
 Young Bros. Co., Detroit, Mich.

OVENS (Warming)

Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
 Eclipse Gas Stove Co., Rockford, Ill.
 General Gas Appliance Co., 103 Park Ave., New York, N. Y.
 Meek Oven Mfg. Co., 18 W. 34th St., New York, N. Y.
 The G. S. Blodgett Co., Burlington, Vt.
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 The Union Steel Products Co., Ltd., Albion, Mich.

PHOTOMETERS

American Meter Co., 105 W. 40th St., New York, N. Y.
 Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
 D. McDonald & Co., Albany, N. Y.
 Maryland Meter Works, Baltimore, Md.
 Nathaniel Tufts Meter Works, Boston, Mass.

PIPE

Camden Iron Works, Camden, N. J.
 Davis & Farnum Mfg. Co., Waltham, Mass.
 General Fire Extinguisher Co., Providence, R. I.
 National Tube Co., Frick Bldg., Pittsburgh, Pa.
 Steere Engineering Co., Detroit, Mich.
 The Bartlett Hayward Co., Baltimore, Md.
 United Lead Co., 111 Broadway, New York, N. Y.

PIPE CASTINGS AND SPECIALS

Davis & Farnum Mfg. Co., Waltham, Mass.
 Isbell-Porter Co., Newark, N. J.
 The Bartlett Hayward Co., Baltimore, Md.
 The Stacey Mfg. Co., Cincinnati, Ohio
 The Western Gas Construction Co., Fort Wayne, Ind.

PIPE CLAMPS AND SLEEVES

Davis & Farnum Mfg. Co., Waltham, Mass.
 S. R. Dresser Mfg. Co., Bradford, Pa.

PIPE PACKING

Celite Products Co., 11 Broadway, New York, N. Y.
 General Fire Extinguisher Co., Providence, R. I.
 United Lead Co., 111 Broadway, New York, N. Y.

PIPE TOOLS (Caulking, Cutting, Tapping)

General Fire Extinguisher Co., Providence, R. I.
 H. Mueller Mfg. Co., New York, N. Y., and Decatur, Ill.
 United Lead Co., 111 Broadway, New York, N. Y.

PLATE WARMERS

Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
 Duparquet, Huot & Moneuse Co., 108 W. 22nd St., New York, N. Y.
 General Gas Appliance Co., 103 Park Ave., New York, N. Y.
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.

PORCELAIN ENAMEL PARTS

(Stoves, Lamps, Linings, Stamping and Spinnings)
 Baltimore Enamel & Novelty Co., Baltimore, Md.
 Eclipse Gas Stove Co., Rockford, Ill.
 The Enamel Products Co., Cleveland, Ohio
 The Porcelain Enamel & Mfg. Co., Baltimore, Md.
 The Union Steel Products Co., Ltd., Albion, Mich.

PRESSURE GAUGES

American Meter Co., 105 W. 40th St., New York, N. Y.
 Bacharach Industrial Instrument Co., Pittsburgh, Pa.
 Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
 Equitable Meter Co., Pittsburgh, Pa.
 General Fire Extinguisher Co., Providence, R. I.
 D. McDonald & Co., Albany, N. Y.
 Maryland Meter Works, Baltimore, Md.
 Superior Meter Co., Bush Terminal, Brooklyn, N. Y.
 The Bryant Heater & Mfg. Co., Cleveland, Ohio
 The Cleveland Rotary Meter Co., Cleveland, Ohio.

The Gas Machinery Co., Cleveland, Ohio
 The Western Gas Construction Co., Fort Wayne, Ind.
 Nathaniel Tufts Meter Works, Boston, Mass.

PUMPS

American Meter Co., 105 W. 40th St., New York, N. Y.
 Gas Machinery Co., Cleveland, Ohio
 Nathaniel Tufts Meter Works, Boston, Mass.
 Plant Engineering & Equipment Co., Inc., 192 Broadway, New York, N. Y.
 Superior Meter Co., Brooklyn, N. Y.
 The Western Gas Construction Co., Fort Wayne, Ind.
 L. J. Wing Mfg. Co., 362 West 13th St., New York, N. Y.

PURIFIERS

Camden Iron Works, Camden, N. J.
 Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
 Cruse-Kemper Co., Ambler, Pa.
 Davis & Farnum Mfg. Co., Waltham, Mass.
 Gas Machinery Co., Cleveland, Ohio
 Isbell-Porter Co., Newark, N. J.
 Steere Engineering Co., Detroit, Mich.
 The Bartlett Hayward Co., Baltimore, Md.
 The Improved Equipment Co., 60 Wall St., New York, N. Y.
 The Stacey Bros. Gas Construction Co., Cincinnati, Ohio
 The Stacey Mfg. Co., Cincinnati, Ohio
 The U. G. I. Contracting Co., Broad & Arch Sts., Philadelphia, Pa.
 The Western Gas Construction Co., Fort Wayne, Ind.

PURIFYING MATERIALS

Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.

RADIATORS

James B. Clow & Sons, Chicago, Ill.
 Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
 Eriez Stove & Mfg. Co., Erie, Pa.
 General Fire Extinguisher Co., Providence, R. I.
 Kidde & Co., 169 Chambers St., New York, N. Y.
 J. B. Slattery & Bro. Inc., 108-110 Lawrence St., Brooklyn, N. Y.
 The Improved Appliance Co., 419 Kent Ave., Brooklyn, N. Y.
 The Mead Gas Heater Co., Delawanna, N. J.
 The A. H. Wolff Gas Radiator Co., 4 Great Jones St., New York, N. Y.

RANGES (Domestic)

A-B Stove Co., Battle Creek, Mich.
 Geo. M. Clark & Co. Div., Chicago, Ill.
 Bartlett & Co., Inc., Philadelphia, Pa.
 Comstock-Castle Stove Co., Quincy, Ill.
 Abram Cox Stove Co., Philadelphia, Pa.
 Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.

Detroit Stove Works, Detroit, Mich.
 Dangler Stove Co. Div., Cleveland, Ohio.
 Eclipse Gas Stove Co., Rockford, Ill.
 Eriez Stove & Mfg. Co., Erie, Pa.
 Estate Stove Co., Hamilton, Ohio
 National Stove Co. Div., Lorain, Ohio.
 New Process Stove Co. Div., Cleveland, Ohio.
 Quick Meal Stove Co. Div., St. Louis, Mo.
 Rathbone, Sard & Co., Albany, N. Y.
 Reliable Stove Co. Div., Cleveland, O.
 Roberts & Mander Stove Co., Philadelphia, Pa.
 The Baltimore Gas Appliance & Mfg. Co., Baltimore, Md.
 The Eclipse Stove Co., Mansfield, Ohio
 The General Gas Appliance Co., 103 Park Ave., New York, N. Y.
 The Michigan Stove Co., Detroit, Mich.
 The Ohio State Stove & Mfg. Co., Columbus, Ohio
 The Peninsular Stove Co., Detroit, Mich.
 The A. H. Wolff Gas Radiator Co., 4 Great Jones St., New York, N. Y.
 Union Stove Works, 70 Beekman St., New York, N. Y.
 Vesta Gas Range & Mfg. Co., Chattanooga, Tenn.
 Weir Stove Co., Taunton, Mass.

RANGES (Hotel)

Geo. M. Clark & Co. Div., Chicago, Ill.
 Comstock-Castle Stove Co., Quincy, Ill.
 Abram Cox Stove Co., Philadelphia, Pa.
 Wm. M. Crane Co., 16 W. 32d St., New York, N. Y.
 Detroit Stove Works, Detroit, Mich.
 Duparquet, Huot & Moneuse Co., 108 W. 22nd St., New York, N. Y.
 Eclipse Gas Stove Co., Rockford, Ill.
 Estate Stove Co., Hamilton, Ohio
 The General Gas Appliance Co., 103 Park Ave., New York, N. Y.
 Roberts & Mander Stove Co., Philadelphia, Pa.
 The Baltimore Gas Appliance & Mfg. Co., Baltimore, Md.
 The Michigan Stove Co., Detroit, Mich.

REFRACTORY MATERIALS

Harbison-Walker Refractories Co., Pittsburgh, Pa.
 Quigley Furnace Specialties Co., 26 Cortlandt St., New York, N. Y.
 Russell Engineering Co., St. Louis, Mo.
 Tate-Jones & Co., Inc., 50 Church St., New York, N. Y.
 The Improved Equipment Co., 60 Wall St., New York, N. Y.
 The Parker-Russell Mining & Mfg. Co., St. Louis, Mo.

REGULATORS (Governors)

American Meter Co., 105 W. 40th St., New York, N. Y.
 Connelly Iron Sponge & Governor Co., 227 Fulton St., New York, N. Y.
 Equitable Meter Co., Pittsburgh, Pa.
 Gas Machinery Co., Cleveland, Ohio
 Isbell-Porter Co., Newark, N. J.

H. Mueller Mfg. Co., New York, N. Y.,
and Decatur, Ill.
Reynolds Gas Regulator Co., Anderson,
Ind.
Steere Engineering Co., Detroit, Mich.
Superior Meter Co., Brooklyn, N. Y.
The Improved Equipment Co., 60 Wall
St., New York, N. Y.
The Cleveland Rotary Meter Co., Cleve-
land, Ohio
The Sprague Meter Co., Bridgeport, Conn.
The Western Gas Construction Co., Fort
Wayne, Ind.
L. J. Wing Mfg. Co., 362 West 13th St.,
New York, N. Y.

REPAIRS (Gas Meters and Appliances)

Helme & McIlhenny, 1349 Cherry St.,
Philadelphia, Pa.
Maryland Meter Works, Baltimore, Md.
Superior Meter Co., Brooklyn, N. Y.
The Western Gas Construction Co., Fort
Wayne, Ind.

RETORTS

Gas Machinery Co., Cleveland, Ohio
Harbison-Walker Refractories Co., Pitts-
burgh, Pa.
Russell Engineering Co., St. Louis, Mo.
The Improved Equipment Co., 60 Wall
St., New York, N. Y.
The Parker-Russell Mining & Mfg. Co.,
St. Louis, Mo.

RUST PREVENTATIVE

Superior Laboratories, Grand Rapids,
Mich.

SCRUBBERS

Camden Iron Works, Camden, N. J.
Davis & Farnum Mfg. Co., Waltham,
Mass.
Gas Machinery Co., Cleveland, Ohio
Isbell-Porter Co., Newark, N. J.
Steere Engineering Co., Detroit, Mich.
The Bartlett Hayward Co., Baltimore, Md.
The Improved Equipment Co., 60 Wall
St., New York, N. Y.
The Koppers Co., Pittsburgh, Pa.
The Stacey Bros. Gas Construction Co.,
Cincinnati, Ohio
The Stacey Mfg. Co., Cincinnati, Ohio
The U. G. I. Contracting Co., Broad &
Arch Sts., Philadelphia, Pa.
The Western Gas Construction Co., Fort
Wayne, Ind.

SERVICE BOXES, CLAMPS, Etc.

Camden Iron Works, Camden, N. J.
Davis & Farnum Mfg. Co., Waltham,
Mass.
General Fire Extinguisher Co., Provi-
dence, R. I.
Hays Mfg. Co., Inc., Erie, Pa.
H. Mueller Mfg. Co., New York, N. Y.,
and Decatur, Ill.

STILLS (Benzol, Toluol)

The Bartlett Hayward Co., Baltimore, Md.
The Koppers Co., Pittsburgh, Pa.

The Walter E. Lummus Co., Boston,
Mass.
The Western Gas Construction Co., Fort
Wayne, Ind.

STOVES (Confectioners, Laundry, Tailor)

A-B Stove Co., Battle Creek, Mich.
Geo. M. Clark & Co. Div., Chicago, Ill.
Wm. M. Crane Co., 16 W. 32d St., New
York, N. Y.
The General Gas Appliance Co., 103 Park
Ave., Brooklyn, N. Y.
The Improved Appliance Co., 419 Kent
Ave., New York, N. Y.

STRAINERS—STEAM TRAPS

Plant Engineering & Equipment Co., Inc.,
192 Broadway, New York, N. Y.

STRUCTURAL STEEL WORKS

(Holders, etc.)
Camden Iron Works, Camden, N. J.
Cruse-Kemper Co., Ambler, Pa.
Davis & Farnum Mfg. Co., Waltham,
Mass.
The Bartlett Hayward Co., Baltimore, Md.
The Stacey Bros. Gas Construction Co.,
Cincinnati, Ohio
The Stacey Mfg. Co., Cincinnati, Ohio
The Western Gas Construction Co., Fort
Wayne, Ind.

TANKS (Ammonia, Oil, Water)

Camden Iron Works, Camden, N. J.
Cruse-Kemper Co., Ambler, Pa.
Davis & Farnum Mfg. Co., Waltham,
Mass.
Gas Machinery Co., Cleveland, Ohio
National Tube Co., Frick Bldg., Pitts-
burgh, Pa.
Steere Engineering Co., Detroit, Mich.
The Bartlett Hayward Co., Baltimore, Md.
The Improved Appliance Co., 419 Kent
Ave., Brooklyn, N. Y.
The Stacey Bros. Gas Construction Co.,
Cincinnati, Ohio
The Stacey Mfg. Co., Cincinnati, Ohio
The Western Gas Construction Co., Fort
Wayne, Ind.

THERMOMETERS

American Meter Co., 105 W. 40th St.
New York, N. Y.
Connelly Iron Sponge & Governor Co.,
227 Fulton St., New York, N. Y.
Gas Machinery Co., Cleveland, Ohio
General Fire Extinguisher Co., Provi-
dence, R. I.
Improved Appliance Co., 419 Kent Ave.,
Brooklyn, N. Y.
The Western Gas Construction Co., Fort
Wayne, Ind.

THERMOSTATS

Gas Machinery Co., Cleveland, Ohio
Kidde & Co., 169 Chambers St., New
York, N. Y.
Minneapolis Heat Regulator Co., Minne-
apolis, Minn.

(Concluded on page 600)

BIBLIOGRAPHY OF GAS LITERATURE

In this Bibliography are listed articles of interest to the gas industry.

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Gas Trade Journals—American.

- Am. G. E. Jour.—American Gas Engineering Journal (American Gas Light Journal, Inc., 150 Nassau St., New York, N. Y.)
The Gas Age—Progressive Age Publishing Co. (52 Vanderbilt Ave., New York, N. Y.)
Gas Industry—The Periodicals Publishing Co., Inc. (Buffalo, N. Y.)
Gas Record (20 W. Jackson Blvd., Chicago, Ill.)
Int. G. Jour. of Canada—Intercolonial Gas Journal of Canada (90 Caroline St., N. Hamilton, Canada).
Acet. Jour.—Acetylene Journal (Acetylene Journal Publishing Co., Peoples Gas Bldg., Chicago, Ill.)
Natural Gas and Gasoline Journal—The Periodicals Publishing Co., Inc. (Buffalo, N. Y.).

Gas Trade Journals—English.

- Gas Jour.—Gas Journal (Walter King, Publisher, 11 Bolt Court, Fleet St., London, E. C.).
The Gas World (John Allen & Co., 8 Bouverie St., London, E. C. 4).

Association Bulletins.

- Bulletin B. C. G. A.—British Commercial Gas Association (47 Victoria St., Westminster, London, S. W.).
Bulletin Empire State Gas & Electric Association (29 W. 39th St., New York, N. Y.).
N. E. L. A. Bulletin—National Electric Light Association (29 W. 39th St., New York, N. Y.).
Trans. I. E. S.—Illuminating Engineering Society (29 W. 39th St., New York, N. Y.).
Jour. R. Soc. of Arts—Journal of the Royal Society of Arts (John St., Adelphi, London, W. C. 2).
A Thousand and One Uses for Gas (British Commercial Gas Association, 47 Victoria St., Westminster, London, S. W., England).

House Organs.

- Advance Club News (Peoples Gas Light & Coke Co., Chicago, Ill.).
The Doherty News (Doherty Publishing Corporation, 60 Wall St., New York, N. Y.).
Gas and Electric News (Rochester Railway & Light Co., Rochester, N. Y.).
Gas Logic (Consolidated Gas Co., New York, No. 1 Madison Ave., New York, N. Y.).
Pacific Service Magazine (Pacific Gas & Electric Co., San Francisco, Cal.).
Public Service Lumen (Public Service Co. of No. Ill., Chicago, Ill.)
Service (Public Service Gas Co., Newark, N. J.).
Southern Public Utilities Magazine (Charlotte, N. C.).
U. G. & E. E. Bulletin (United Gas & Electric Engineering Corporation, 61 Broadway, New York, N. Y.).

Miscellaneous Publications.

- Aera (American Electric Railway Association, 8 W. 40th St., New York, N. Y.).
General Electrical Review (General Electric Co., Publication Bureau, Schenectady, N. Y.).
Printers Ink (185 Madison Ave., New York, N. Y.).
Public Service (122 S. Michigan Ave., Chicago, Ill.).
Safety News (United Gas Improvement Co., Philadelphia, Pa.).
System (Wabash Ave. and Madison St., Chicago, Ill.).

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NOTE.—The following list includes references to articles published from Aug. 20 to Sep. 20, 1919.

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Canadian Gas Association (Niagara Falls, Ont., Aug. 21, 22)		A. G. A. Monthly, Sep. 565 A. G. A. Monthly, Sep., 509 Gas Record, Aug. 27, 64 Am. G. E. Jour., Aug. 30, 193 Gas Age, Sep. 1, 221 Gas Industry, Sep., 233 Gas Jour. of Can., Sep., 327
Irish Association of Gas Managers (Dublin, Aug. 19, 1919)		Gas World, Aug. 23, 140 Gas Jour., Aug. 6, 449
Natural Gas Association Committees		Nat. G. & G. Jour., Aug., 307
New Jersey State Gas Association (Ocean City, Sept. 8, 1919)		A. G. A. Monthly, Sep., 508
Petroleum Institute Committee		Nat. G. & G. Jour., Aug., 280 A. G. A. Monthly, Sep., 517
Society of Chemical Industry (London, July 15-18, 1919)		Chem. Age, July 26, 154

BY-PRODUCTS.

Alkali Works, British (Inspector's Report)	W. S. Curphey	Chem. Age, Aug. 2, 189 Chem. Age, Aug. 9, 109, 218 Gas Jour., Aug. 5, 279, 285, 288 Gas Jour., Aug. 12, 331, 339 Gas World, Aug. 2, 80
Ammonia Sulphate (Progress Report)		Chem Age, Aug. 2, 196
Ammonia—Production (Harbor Process)		Gas Jour., Aug. 12, 343
Ammonia—Synthetic	F. Sommer	Gas World, C. S., Aug. 2, 21 Am. G. E. Jour., Sep. 13, 223
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Benzole—a Retrospect	E. Sainte-Claire-Deville	Gas Jour., Aug. 26, 437, 447
Benzole Detractors	E. de Normanville	Gas Jour., Aug. 19, 392
Benzole in Coal Gas	E. Sainte-Claire-Deville	Gas Jour., Aug. 5, 290
Benzole Recovery	C. Berthelot	Gas World, Aug. 20, 168
Briquette Making—Pitch Dust in a Safe Method		Gas World, Aug. 16, 121
Coke a Household Fuel	W. H. Y. Weber	Gas World, Aug. 30, 165
Coke and Coke Breeze, Caloric Value, Graphical	K. Norton	Gas World, Aug. 16, 124 Gas Age, Sep. 15, 250 Gas Age, Sep. 15, 235
Coke Breeze Steam Production	R. S. McBride	Gas World, C. S., Aug. 2, 14
Coke Displaying	W. A. Selvig	Gas World, Aug. 16, 122
Coke Oven Practice—Temperatures in By-Product	C. J. Goodwin	Gas Record, Aug. 27, 17
Coke Oven Waste Heat Boilers	W. A. Tookey	Am. G. E. Jour., Aug. 30, 184
Coke, Uses of	R. S. McBride	Gas Age, Sep. 1, 197
Coking Illinois Coal	I. V. Brumbaugh J. E. Darst R. S. McBride W. A. Selvig	U. S. Tariff Comm. No. 11 Chem. Age, July 26, 154, 169
Dyes and Coal Tar—Census of Dye Stuffs Conference (Chem. Industry paper)		Nat. G. & G. Jour., Aug., 300
Gasoline Absorption Process	W. P. Dykena	Chem. Age, Aug. 2, 186
Industrial Catalysis	Dr. H. S. Taylor	Chem. Age, Aug. 9, 212

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Intermediates, Manufacture of	E. V. Evans	Chem. Age, July 26, 157
Liquid Fuel from Coal Tar Pitch		Gas World, Aug. 9, 106
Motor Fuel	L. B. Colby	Gas Record, Aug. 27, 20
Pitch and Tar Oils, Direct Recovery		Gas Jour., Aug. 19, 391
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Complaint and Trouble Service, Charging for	C. A. Nash	Gas World, Aug. 9, 109
Flow of Gas Through By-Pass	T. Noonan	Am. G. E. Jour., Aug. 30, 187
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